Information Exchange Public Hearing
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Presentation

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<u>**Claudia Williams – ONC – Acting Director, Office State & Community Programs**</u>
…utility. We don't want to create an infrastructure that's not useful to people, that nobody wants to use, that won't be kind of at the heart of the things we're trying to create and do. Clearly, meaningful use stage one creates a very strong business case that sharing care summaries across providers, sharing lab results, we need to have this kind of infrastructure. But equally, and we'll be hearing today, what about public health alerts? What about attributing providers for quality reporting? What about business processes that are currently being done within entities and enterprises. What is the utility of this kind of infrastructure for them, and would folks use it? So I think it'll be really interesting throughout today's discussion to probe on both of those questions.

In terms of data elements equally, I was very struck in reading the testimony that while there was a very clear perhaps common set of elements that folks were teeing up, there were certain uses and I think about public health as being one where there might be a level of detail and specificity that's really more and different than some other uses. So one of the things I think we'd like to tee up is what's that common core, but equally, if we really want to embrace some of these other uses, what might be some additional pieces we need to add on. How do we think about parsimony versus expansiveness and what's the value of both of those.

In terms of data sources, I think another thing that was fascinating in the testimony was the use of things like NPI and business directories that exist. Those are things, I think, we already thought about. But also, I think, increasingly we're seeing leveraging of resources like all pair databases to start to feed into provider directories. Actually, a very interesting discussion I'd love to have today is to what extent do we need to link provider to location to patients. What could something like an all pair database do to help enable that? I think there's going to be a lot of discussion about that provider to location kind of decision-making.

Interoperability and one thing I would love it is to have, at the end of the day, a sense of interoperability for what. What are we really talking about exchanging and linking among? But I think some of the elements of that are, we'll hear from CAQH about standardized interfaces. What's the value of that? Standardized payloads, common data elements or at least mapping among data elements across directories, but also, do we need to be driving toward common policies or not? I think policies, interfaces, payload, and data elements might all be elements to think about, as we think about interoperability.

I think the accuracy question is a really interesting one, and it'll be wonderful, especially as we hear from some of the business uses, to know where is the sensitivity. How accurate does it need to be? Which elements need to be accurate? Can we tolerate some inaccuracy around addresses, but can't around NPI? It would be great to hear not just what level of accuracy we need, but where good enough is okay and where we really need to be very sure.

I think the policy framework is a very interesting question, and I think a couple of the testifiers pointed out in their notes that we haven't really typically thought of a policy framework being needed for these kinds of resources in part because they're internal enterprise level resources. I think the testimony from CAQH in particular teed up issues like transparency, access, accuracy, governance, as some of the things you might look at. I think a key question for a policy framework is, if we are going to move from resources that

exist within a particulr business use case and for a particular purpose with a known set of users, how is that different from the kinds of policies we might need for a more openly available resource.

Finally, I think, the real sort of question is how do we not rip and replace? How do we leverage existing data infrastructure and potential users? How do we take advantage of the fact that people have real motivations here, but the motivation is not always aligned in a common direction to create sustainable and open resources? Is that a desirable goal? How might we do that? At what level does it exist? Is that a state resource? Is that a regional resource? There's likely not going to be a single, uniform for all, for one, but can we align in a way that really is more efficient, is more accurate, and can support several uses that we have?

On the routing director, I'm actually going to let— Arien Malec is on the phone subbing for Doug, who is on Capitol Hill with David Blumenthal. I think I just want to let him, when we get to that, which I think will be after Micky, talk a little bit about the particulars, thinking about NHIN, both Exchange and Direct, the existing infrastructure that exists and the sort of approach that's been taken, and what some of the questions are that we might want to see this group address. I think want to stay disciplined that this is a policy committee group, and there may well be a need to say we need standards. We need specifications in certain domains. We need technical standards. At that point, we have an opportunity to tee up those requests to the standards committee. In particular, two of the questions that have been highlighted are, is individual provider needed, or is entity or organization enough, and how do we think about linking the routing directory resources to the yellow pages.

Thanks very much for the opportunity. Again, I don't want to view this as something that keeps us necessarily exactly in the four walls of what's here, but rather say, here is what we think we need. It would be fabulous if this group could come up with recommendations that help move us along towards a common way, a set of requirements, things that we can do to advance this field. Thanks, Micky.

Micky Tripathi – Massachusetts eHealth Collaborative – President & CEO
Thank you, Claudia. Thanks for that. That was an incredibly thoughtful and gives us certainly a lot to work with. I know I speak for all the members of the workgroup when I say that you've managed to scare the heck out of all of us in terms of the charge, but this is complicated. Let me just step back for a minute and just give some broad context from the information exchange workgroup perspective. Then I'm going to turn it over to Jonah and Walter, who are the cochairs of the taskforce focused on provider directories, and they can sort of tee up the panels and the speakers for the day. I'll just make some very brief remarks.

The information exchange workgroup is broadly charged with sort of two things. One is identifying barriers to route the diffusion of health information exchange capabilities, as they relate to meaningful use transactions, and so we've been particularly focused on the stage one meaningful use transactions. The particular areas of focus for stage one meaningful use have been lab results delivery, e-Prescribing, and summary care exchange. About a year ago, we had a lot of focus on labs, and we turned to e-Prescribing, and now we're turning to summary care exchange. Provider directories is one key element of summary care exchange, which is why we're here today and why we're focused on that.

When we think about recommendations and what are the types of recommendations that come out of the information exchange workgroup, they're always focused on trying to identify policy levers that the federal government could take to help enable more rapid diffusion of health information exchange capabilities in the market. One of the things to the extent that there things that the federal government could do and/or state governments could do to better enable the market to move forward in a way with more rapidly bringing certain capabilities to the market and aligning it with sort of the common goals that we have, serving their private needs, as well as the public need. I think that's sort of a key goal here, but it's not to try to recommend a creation of a separate sort of market entity on its own necessarily. It's more about what are the levers that we can pull through a policy perspective to better enable the market to do what it can do best.

What do you think about the recommendations here? We'll get a more refined sense, I think, after today's hearing about when exactly we want to make recommendations about what. I think, at a high level, what we're anticipating is that we will stage a set of recommendations over the next two to three policy committee meetings, so there's one in October, one in November, one in December. We'll figure out and try to better refine and characterize exactly what we want to be providing recommendations on when, but certainly the October meeting, I think, will be more along the lines of principles and identifying what areas seem to be particular barriers at the state level. Then in November/December, I think, after the workgroup has had a chance to deliberate following this hearing, we'll be able to give a more refined sense of what we want to be able to say for the November and December policy committee meetings, all recognizing that there is a great sense of urgency.

I think, both from the National Coordinator's office, as well as the states, and I don't know where the urgency is greater, and they're obviously related, but the states, as everyone knows, has health information exchange dollars that they need to spend on different approaches to get health information exchange capabilities up and running as quickly as possible, and provider directories are key to that. So the challenge for us is that they are really going to be in a position where they have to spend these dollars in order to move forward. Without any guidance, they're going to have to keep moving forward because they have specific objectives, specific goals in mind that they want to be able to accomplish. That's the workgroup challenge to be able to provide guidance that's meaningful to them in a timely way.

The last point I guess I would make is that the provider directory issue, while it's unbelievably complex, and we'll see that in the testimony today, it doesn't strike me as being any more or less complex than any of the other interoperability issues that we face, and so it's got all the same elements in many ways. We've gotten unbelievably fragmented healthcare delivery system. We've got the challenge that the market moves restlessly and relentlessly forward, both from a business side and a technology side, and so whatever we might try to architect, it's always going to be too late in some ways because the market will keep moving forward.

Finally, you've got organizations that have invested and are continuing to invest in solutions to solve their business needs. Whatever it is that we do, no individual organization—I think Claudia made this point— no individual organization has solved the societal need we had because that's not what they're trying to do. So our challenge is to try to figure out how we orchestrate all of that because, collectively, the solution is there, but it's not in any individual place, so that's the challenge that we've handed to Jonah and Walter to figure all this stuff out.

With that as by way of background from the information exchange workgroup perspective, let me turn it over to Jonah and Walter to help us tee up today's hearing.

Jonah Frohlich – HIT at California HHS Agency – Deputy Secretary
I appreciate the opportunity to be here, and also just wanted to thank Judy and Kory and Claudia for putting this together in record time, even for ONC. It was pretty astounding how quickly you managed to put the panel together and the interviewee, so I also appreciate those who traveled far to come here today to testify.

I want to underscore the sort of nature of expediency that Micky mentioned. Today is September 30th, which is the last day of the federal fiscal year. It's also the last day for over 50 states and regional grantees to have no match requirement in our grant, so we're going to be spending a lot of money today in the states—not literally—but we are clearly under the gun to get a lot done. January 1st is when essentially the meaningful use program starts in earnest when people are expected to begin signing up. We have very little time really to get a lot of work done.

It also, as one of the grantees of the over 50 states and territory grantees, it's eminently clear, as I talk to my colleagues and to ONC and federal partners that many of us are really going down the same road in terms of developing and being interested in supporting directories. It struck me, and it's one of the reasons I was very interested in participating in this group that there was an incredible opportunity for us to coordinate our collective action so that we did not instantiate 55 directories that were non-interoperable

and that could not be able to share data across our regions or states. This really was, for me, a great opportunity for us to consider how we can have this common set of technical requirements and business requirements that would allow us to have something that was much more coordinated that would allow us to pool our resources and to be able to set up a kind of national directory, whether it's sort of multiple, regional, federated in nature or otherwise. I was very excited about the prospect of this.

Maybe what I'll do is I'll go across the first couple of panels, and then turn it over to Walter, who is my cochair, partner in crime here on this taskforce, but the way we structured the meeting after a couple of rounds of deliberation was we really wanted to start with the business requirements. What was the value proposition? What were the things that were needed in the market based on our expected meaningful use programs and the market in general that our programs could fulfill? We wanted to really start from the business needs, and we wanted to break it down into a couple of categories. What we did is we started with the clinicians, essentially the primary first set of targeted users of the services. Then, in a second panel, we expanded that to have health plans, public health, and others.

What you're going to see in the first panel is a group of clinicians who we include integrated delivery network, hospitals, and physician groups. Those are really expected to be the users of the service to meet their meaningful use requirements for summary care exchange. Steve Stack is going to moderate that panel, and we're going to hear from Sid Thornton from Intermountain Health. We're going to hear from Abby Sears from OCHIN. Steve Waldren from American Academy of Family Physicians will be presenting, as well as Dan Nigrin from the Children's Hospital of Boson, and Linda Syth from Wisconsin.

Then we're going to hear from some of the other expected potential beneficiaries and users of the services in the second panel, and David Lansky will be moderating that panel. We'll hear from one of the taskforce members, Charles Kennedy from WellPoint. We'll also hear from Tom Morrison from NaviNet. They've established essentially a directory service for a lot of administrative transactions over the country, and you'll see how they've been able to establish it with a very large number of clinicians across the country. Marty LaVenture, and I think, James, are you going to be doing the—is Marty going to be doing this over the phone? Do it over the phone, so we'll hear from my colleague in Minnesota. We'll also hear from Rob Chapman from the CDC and Karen Trudel from CMS, and then we'll get into the third panel.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
This is Walter Suarez, for those on the phone. Often we hear the business needs from various perspectives. We wanted to bring together a panel of representatives from state and regional initiatives to help us understand how provider directories will help certainly pursue the goals of health information exchanges in states and regions. So we have a panel that is moderated by Jonah and includes representatives from Vermont, Hunt Blair, from California e-connect, from New England Health Exchange Network, and then from the Missouri Medicaid program. Then we finish up the day with a panel on technical aspects and technical requirements around provider directories. I will be moderating that panel, and we'll hear from CAQH, from Symantec, Surescripts, Axolotl, and GE Health.

We wanted to expand certainly the opportunity to hear and listen to many other perspectives. As many of you have seen, we posted a blog on this topic have circulated and have asked others that are not part of the in-person testimony to provide us written testimony and provide us other comments. Those comments will continue to be received, I believe, until October 4th of something like that, I think, sometime next week. So we are encouraging anyone that wants to submit additional comments or respond to the questions that we pose to the various panels to do so on the federal blog on the health IT, ONC's Website.

I wanted to finish up by just making a couple of comments. I think we all have recognized that clearly provider directories are a foundational building block of health information exchanges. We see that as being one of the primary purposes of fully bringing together this hearing is to understand again the business needs and the technical requirements of provider directories. We also recognize that there are suppliers, if you will, of provider directory services and functionality and users of those services and functionality, and that's the blend that we wanted to bring to this day.

Then the last element is really understanding the uses of the provider directories, and I think we have, through the slide that Claudia presented, we have started to key in to some of the uses. We clearly are looking at what are the uses for purposes of supporting health information exchanges, but there are going to be additional uses. I don't want to put it into primary and secondary uses, but there's going to be a wide array of uses of these provider directories. But a fundamental element is really how they support health information exchanges.

With that, I think we logistically wanted to ask people. There is an extensive testimony being provided in the written materials submitted by testifiers and presentations, and so we wanted to really, rather than certainly going through all the details in those written documents, ask the testifiers to focus, and about five minutes each, I believe, is what we wanted to hear from each of the testifiers on the most critical messages they want to bring, and then allow the members of the taskforce to interact with the testifiers and spend the bulk of the time of each of these panels on the exchange.

I'll turn it back to Micky and David.

Jonah Frohlich – HIT at California HHS Agency – Deputy Secretary
It's going to be Arien instead of Doug.

Claudia Williams – ONC – Acting Director, Office State & Community Programs
Yes. Arien, are you on the phone?

Arien Malec – RelayHealth – VP, Product Management
Yes, can you hear me?

Claudia Williams – ONC – Acting Director, Office State & Community Programs
Yes. You're not terribly loud, but we can hear you.

Arien Malec – RelayHealth – VP, Product Management
I will try to speak up. First of all, I apologize for not being there in person, and apologize on Doug's behalf for not being there in purpose. Doug is, as Claudia mentioned, working with David Blumenthal on the Hill, and so was called in to some testimony that David Blumenthal is doing to congress, so I'm filling in … from home. But through the triumph of technology, here I am.

I wanted to walk through pretty quickly the needs of the Nationwide Health Information Network for provider directories, both from the exchange perspective, as well as some of the emergent needs on the Direct project perspective. Starting first with Exchange, Exchange currently has, if you look at the ontology of a yellow pages and a routing directory, Exchange currently has a routing directory. That routing directory exists at the organizational or the gateway level. The nodes of the Nationwide Health Information Network Exchange model fit at a gateway, typically sitting behind or sitting in front of, rather, large federal providers or federal systems or large, integrated, delivery networks.

Although, by design, the exchange is intended to also front state health information exchanges, as well as other kinds of organizations. There's no requirement that the organization behind the gateway be large. That's just somewhat accidentally how it's been for the first stages of rollout.

That directory, as I said, is a routing directory. Its primary purpose is to advertise which services the gateway supports. Exchange supports multiple services, including cross-community patient discovery and information access, as well as document submission, as well as a number of additional emergent services. It first tells you which services the gateway supports, as well as, and this will be the key theme, it contains the information that certificates and such allow other gateways to participate with confidence.

The exchange is a centralized trust model organization that is by virtue of signing the DURSA and being issued a certificate that goes to or is specific to exchange members of the—or gateways that participate in exchange have confidence that other gateways that talk to them are trusted members or trusted organizations that are part of the exchange. That's a high level routing directory that is available for

exchange at the kind of geek bits and bytes level that surface through a UDDI directory. If you don't understand that, don't worry about it.

There is an emergent need for yellow pages directories, and some of the kinds of use cases that end up driving that need are that we use the exchange services to, for example, discover patient information across networks. What we have at the end of that is a set of documents that describe the summary of patient care across multiple networks. But those documents were retrieved, as I said, at the gateway level, at the large organizational level. If we need to drill in further or establish continuity of care with respect to those documents, we're going to need to know who was the provider of care or providers of care or the care team for the patient and then contact that care team, either via phone, fax, or electronic communication using some kind of directed exchange.

There is the need for exchange started with routing directories, but I think we'll quickly, and is quickly shifting to needing yellow pages directories as well, primarily in order to facilitate post exchange continuity of care and tie it most prominently to directed exchange. There are a number of additional emergent models on exchange where the ability to have access to a yellow pages directory would be useful. I'd mentioned things like electronic submission of medical documents for CMS. That is the ability to combine medical documents with claims transmissions. Again, there's a need to query back or do directed exchange back to find additional information about a particular claim, the same kinds of things for claims submission for social security claims. Again, the primary need here for directories is, we've gotten information at the gateway level. We then need to establish better coordination of care or better coordination of administrative information that goes down to the provider level.

Switching to the Direct project, we again started the Direct project with the assumption that just like with ordinary e-mail, we are able to function in our day-to-day business lives or without access to a single nationwide directory or, in many cases, any exposed directory at all. Yet, we find ourselves capable of exchanging information via e-mail quite readily based on out of band transfer of the e-mail address. So we started actually the Direct project with the same assumption, the assumption being that we needed a routing directory.

That routing directory supplies two things very similar to the routing directory for exchange. It, A, tells you how to get the bits that you're looking for from point A to point B. Given an address, it lets you know how to send the message in a way where that message is going to get where it's going. Then, most critically, and I think this is the key link between, in a directed exchange model, the key link between the routing directory and the yellow pages directory. It also establishes trust.

The direct exchange model is a decentralized trust model, so exchange is a centralized trust model with a single certificate or a single certificate authority that manages trust across all of the exchange participants with a centralized legal mechanism for trust … the DURSA. The direct project model is a decentralized trust model where there are multiple circles of trust, multiple exchange models, if you will, with uniform circle of trust inside the exchange model and then the ability for providers to fit between multiple circles. Where that's important is, for example, one in the same provider may be participating at a state health information organization level, maybe participating in a local ACO or integrated delivery system, and hopefully, at some point, they'll be participating in directed exchange at a nationwide level. And so we believed it was very important to have a decentralized mechanism of trust enforcement.

One of the key themes that you need in any kind of directed exchange model is assurance that the provider or person who is sending the transaction has assurance that the person who is receiving the transaction is who he or she indeed claims to be. And, in some cases, you also need assurance that that person is or organization is a covered entity that has the appropriate licensure to receive that information. That's, I think, the key link between the routing directory kind of components, which, as I said, provide the path for the bits and bytes, as well as the trust enforcement that is what certificates and what identity assurance are necessary to insure the transmission and the trust of the exchange with the yellow pages directory.

As a provider, I would like to have access, not only to addresses that I have exchanged out of band, that is, I already know about the address. I'd also like to discover the appropriate provider to send information to. Again, I think we got clearer use cases for this, both at the exchange level and at the direct level where I may know that the patient who is sitting in front of me has received care from a provider that I know by name, but don't know by address, and would like to be able to discover the address for that provider. I may know that there is a center of excellence that I would like to refer this patient to, but I don't know the individual contact information. It would be useful for me to discover that individual contact information. So there's a whole range of continuity of care business needs that can be handled without the purposes of yellow directories or without the existence of yellow pages directories, but where the existence of yellow pages directories is vitally important.

The second area where yellow pages directories are vitally important is, as I mentioned, this link between the decentralized trust model that's being built in the directed exchange and the need for known credentialing information. To the extent that the yellow pages directory can link off of or provide a level of assurance, but the provider that is being messaged is a credentialed provider, the existence of a yellow pages directory can supply additional mechanisms for trust in directed exchange. What I mean by that is I may have an address. I may have the need to send that address and have confidence that the organization or person that I'm sending to is the organization or person that I mean it to send to. But it would also be useful to know that that organization or person that I've been handed the address of is a valid, credentialed provider that ties back to an organization that's a covered entity, that's covered by HIPAA, that is, from a credentialing perspective, an organization that I trust for that purpose as well. So a well structured, well organized yellow pages directory that gives me confidence in the credentialing of the addresses that I send to can also be a mechanism for enforcing trust.

To repeat both ….

Jonah Frohlich – HIT at California HHS Agency – Deputy Secretary
Arien, can you take a quick question?

Arien Malec – RelayHealth – VP, Product Management
Sure.

Paul Egerman – Software Entrepreneur
When you're talking about credentialing of providers, are you talking about digital credentials or medical credentials?

Arien Malec – RelayHealth – VP, Product Management
In this case, I'm talking about medical credentials. Both the routing directories for Exchange, as well as for Direct, provide the digital credentials, the mechanisms for electronic signature, and encryption that give me confidence that I'm sending to whom I intend to send, but they don't give me necessarily confidence that the person that I intend to send to is indeed a medically credentialed provider. They only give me confidence that it is indeed the address that I'm intending to send to.

I normally get that level of assurance through out of band transaction that, as I call the practice, find their health Internet address and send to it in the same way that we do for e-mail. You give me your business card or give me your e-mail address over the phone. I have confidence that you are who you say you are and that you have no reason to mislead me with your e-mail address. For cases of health information exchange, it would be useful to do a secondary check to verify that you are indeed a credentialed provider, as I said, a medically credentialed provider to doubly enforce that sense of trust.

I'll pause now. I've given a lot of information, I think, pretty quickly. I'll open it up for questions.

Jonah Frohlich – HIT at California HHS Agency – Deputy Secretary
As one of the cochairs, I'm going to take the liberty of asking the first question, and then see if other members of the panel have questions as well, but one of the things you mentioned in the Direct model is that it's a decentralized model as opposed to Exchange where you essentially have one issuing certificate

authority and one, essentially, it seems like a centralized sort of governance model. In terms of having in the direct model where it's decentralized, do you see or would you expect the need for there to be some sort of rigid consistency across the various organizations that are engaged in exchange?

You mentioned sort of these circles of exchange where there's an HIO or region or state or some other. Would you see a real need for a very rigid consistency across sort of the routing and yellow pages directory kinds of services in order for the direct exchange model to work, or can we have a very divergent, different set of requirements in these directory kinds of services in different regions or these different exchange circles?

Arien Malec – RelayHealth – VP, Product Management
Right. This is actually a hot topic currently in the Direct project. From the standpoints of getting the bits and bytes from point A to point B, you need rigid consistency. Fortunately we have a ready-made directory in the Internet DNS. For trust discovery, you need one or maybe a very few models for trust discovery. That is, if I'm sending to you, I need to find your certificate to have assurance that I am indeed intending to send to you and can encrypt the transaction in a way that only you can receive it.

The mechanism for discovery of your certificate credentials, your digital credentials needs to be, if we have universal exchange, needs to be relatively universal. And narrowing down to one or a small handful of mechanisms for doing that is very critical. At the routing directory level, having a single standard that is universally discoverable is critical to establish … exchange.

From a yellow pages directory, there's not the same level of criticality, except to the extent that I want to build universal tooling around multiple directories. What I mean by that is that I've got a bunch of different directories, and they're all exposed through Websites that I can browse. We can trust humans to figure out idiosyncrasies of one versus the other. If I want tooling that's built into my EHR that can look up the address of a provider across multiple networks, it's very useful for there to be a single standard or at least a small number of standards that enable that. If we think the model is humans using Web tools in the same way that humans use Google and the like, then we don't need rigid standardization. If we think that the model is building tooling into our EHRs, then we likely will need significant levels of standardization.

Jonah Frohlich – HIT at California HHS Agency – Deputy Secretary
Paul?

Paul Egerman – Software Entrepreneur
I just wanted to make sure I understood your last comment right because this is actually very helpful. All the comments, of course, were very helpful. I also want to say good morning to you. I know you're out on the West Coast. I appreciate your dedication in doing this so early in the morning. It's a bright, sunny day here in Washington, D.C., and I'm sure in a little bit of a fog on the West Coast. But your last comment was very helpful.

The way I heard your last comment was the yellow pages is really more for sort of like human interaction. It's finding the right physician or somebody has the right medical credentials, whereas the routing directory, which seems to be an entity level directory, is actually for machine-to-machine communication. Is that a fair understanding of what you said?

Arien Malec – RelayHealth – VP, Product Management
I think that's a very fair understanding of what I said. I think the only thing that I'd add to that is that there are interesting things that you can do with a machine-to-machine interaction on a yellow pages level. For example, you could imagine that having received a continuity of care document through a query retrieve mechanism, my EHR could pull out the information for a provider and surface up their address for communication. There are interesting things that you could do at a machine level with a machine-to-machine directory for yellow pages, but I think the primary use cases early on are going to be human-to-machine.

Paul Egerman – Software Entrepreneur
The sense I have from your comments too is that for NHIN Direct, it would be helpful to have, on the routing directory, a national standard or a national way of doing that, and also standards around the digital certificates. Is that correct?

Arien Malec – RelayHealth – VP, Product Management
That is absolutely correct. That's more of a Nationwide Health Information Network governance question, but one of the models that I've been using for Direct is that we can get started with decentralized exchange models, and nationwide governance and policy will help directed exchange scale. One of the key ways that policy and governance help directed exchange scale is through establishing uniformity of trust, as well as uniformity of technology.

Jonah Frohlich – HIT at California HHS Agency – Deputy Secretary
Other questions from the panel? All right. I'm going to ask one more question, and then we can move on to our first panel. You mentioned in the exchange model there's more of a centralized model for sort of governance certificates, authority issuance, etc. Is there any reason why in sort of for a national exchange they couldn't be one of many of the islands that you mentioned in a direct model so that you have an HIN exchange essentially operating like its own HIO? You have, and I'll just take my state, you have Redwood Med Net and Western Health information Network in Santa Cruz, HIE and others operating their own HIOs. Could conceivably we have sort of a federated model whereby you have exchange issuing its own certificates and having its own sort of HIO governance model, but all agreeing to sort of a common set of requirements so that he can have a federated model, which includes Direct and participants in that project?

Arien Malec – RelayHealth – VP, Product Management
Absolutely. I think that's very, very likely, as well as I also believe it's likely that the Nationwide Health Information Network governance process will conclude if there's a need for governance of a broader set of stakeholders that includes the ability to issue credentials for the nation as a whole. I believe that we're going to get to a federated trust model, just as you described, but I also believe that we're going to get to a wider and broader Nationwide Health Information Network.

Jonah Frohlich – HIT at California HHS Agency – Deputy Secretary
Thank you very much, Arien. I really appreciate you filling in for Doug. You did admirably on the West Coast. We're going to move on to panel one, so the moderator here is Steve Stack. I think what we had decided what we're going to is we're going to ask the panelists to come forward, and then Steve, the moderators we're going to introduce them and read their bios. I think we have a couple of bios here in our packet, so I'm going to turn it over to Steve for panel one.

Steven Stack – St. Joseph Hospital East – Chair, ER Dept
Thank you, Jonah. Thank you to our panelists. We have the opportunity here to lead by example. Is that timer going to work, that five-minute timer down there on the screen? Yes. We really, really would like to have the dialog among the members of the group and between the workgroup up here, and so if you could use the five minutes to try to summarize the most salient points, and then we'll look forward to a robust exchange and dialog after that.

I have a few limited bios that I'm going to just selectively read a few things here for those who are on the telephone, and then those who I don't have more information, you can share as you start off. We have with us Sidney Thornton, Ph.D. Dr. Thornton comes to us from Intermountain Healthcare where he is a senior medical informaticist in Salt Lake City, Utah. His responsibilities include interoperability among clinical and administrative systems. There's more to his bio, but I think that's what we'll summarize for him.

We have Steven Waldren on the telephone. Dr. Waldren is a family physician who serves as the director of the American Academy of Family Physicians Center for Health IT. The AAFP aims to expand its services to thousands of more primary care physicians within the next five years in support of health IT.

He also has a masters in healthcare informatics and has served at the National Library of Medicine as a postdoctoral medical informatics research fellow.

We also have Dr. Daniel Nigrin, MDMS, who is a chief information officer and assistant in endocrinology. He has received is MD from Johns Hopkins and a Masters Degree in medical informatics from MIT, the Massachusetts Institute of Technology. As chief information officer at Children's Hospital in Boston, he's responsible for all clinical, research, teachings, administrative IT functions at one of the world's preeminent institutions for pediatric clinical care and research with a staff of over 7,000. He's also a practicing physician and a researcher.

We also have with us Linda Syth, who is the chief operating officer from Wisconsin Medical Society. She's going to speak to us about their provider directory that they have in place in there.

We have Abby Sears, who is the CEO of Oregon Community Health Info is all I have, so I don't know if that's—what info—if the rest of that is abbreviated, information, informatics.

I guess, why don't we start with Sid on the left, if we can, then we'll work down the table. Steve, you're number three up, okay?

Sid Thornton – Intermountain Healthcare – Senior Medical Informaticist
I'm Sid Thornton from Intermountain Healthcare. As I consider the many use cases for Intermountain Healthcare as an integrated delivery network, I'd like to focus my few minutes on that of having shared disambiguation and validation services, as we try and accept external patient data through health information exchange. For the past decade, Intermountain Healthcare has maintained our own internal master directory of provider directories where we facilitate the integration of several hundred clinical and administrative data systems and synchronize our provider directories to provide such functionality as patient lists, alert notification, billing, and many other physician oriented workflows in a patient centric data model.

Where we have great need, and particularly if we look to integrate our provider network with other provider networks through all of the various proposed mechanisms that we've heard about this morning, we have still a manual process where, as we receive an inbound transaction, where we don't have a positive identification of that either provider organization or the individual provider, we have to go through a manual process. For this purpose, whether the yellow page reference is automated or manual, that would still serve our needs as long as it was authoritative. Again, the purpose being, as was mentioned earlier, we are very interested and keen on building patient centric summaries with full attribution of data based on the provider's both internal to our network of clinicians and affiliate clinicians, as well as those who are nonaffiliated so that we really have a true patient summary.

Again, to be able to complete accurate trend summaries at a patient level and also to support accurate provider performance analytics, what we really need to be able to understand how an individual clinician is affiliated to the organization to the entity with whom we have established a connection and the particular role for that patient data. Again, that's a call for some standardization, not only at the clinical level and at the entity level, but also we would like to see, while we have this momentum, some discussion about the organization or standardization of the way that providers are nested within organizations or their affiliations. This becomes particularly complicated, as we have providers who work in and out of our networks, and individual clinicians. It's also, we don't limit it just to physicians, but also as we have various nursing staff or other clinical staff who work across networks, and yet we still want to be able to capture, at that level of granularity, the attribution for the patient summarizations.

Good examples have already been talked about, and we are working diligently trying to have complete prenatal records that are very disparate in terms of where the patients seek their care across networks, as well as, I think it's important to note that the use case of being able to notify or send alerts, as patients present at out of network emergency rooms and/or receive lab values or out of … lab values, we want our automated clinical decisions network to be able to function and to be able to route those messages appropriately in a secure manner. With that, I sort of would like to just emphasize that we have a

tremendous need to disambiguate both the individual clinicians and the entities, and we believe that would be best served if there were shared validation services and disambiguation services across provider networks. Thank you.

Steven Stack – St. Joseph Hospital East – Chair, ER Dept
Ms. Sears from—you're going to have to tell me—Oregon Community Health.

Abby Sears – OCHIN – CEO
Just OCHIN. Thank you very much for having me here today, and thank you for all of your work on this panel, as which is always true, anything Jonah is working on is usually 20 steps ahead of anything we're thinking about at OCHIN, so he's laughing. I have to admit that when the request came in for us to testify here, I was a little confused by it. I wasn't entirely sure what it was about, and ran through the office to our creative, innovative leaders in the organization and asked them what kind trouble they'd gotten into because that happens fairly often. Thank you.

I just wanted to touch on a few things related to our network because I had to kind of go through my mind and my Rolodex of what we might have to offer. I have to kind of go through that for a minute to go to what I think we might have to discuss today with you. We are basically two functions at OCHIN. One, we're a network of community health centers in seven states across the country with about 600 providers, 2 million visits a year with a database of over 10 million visits. That's all in a centralized database, and so that particular part of the work that we have been doing for the last ten years is, I believe, kind of pushing the envelop as much as can by sharing the data in our database. We have uninsured data and Medicaid data, which is about 85% of the data in the database, which I think is one of the most robust databases of uninsured data in the country.

We are using Epic's Care Everywhere model to share data with OHSU. We've had over about 2,000 connections to date. We just started that in June. It's working very, very well. It's a direct exchange method of sharing information, as I'm sure you're all aware. And we've had some interesting learnings from that particular process that I think are relevant to maybe not this particular panel, but other panels that you have here.

The other projects that we've been working on is that we're one of the 15 Social Security Administration contracts for automatic disability checking using the NHIN system, and so from that particular process, we've gained some understanding as well about some of the ways to exchange data through that process. That goes live in January. I have to admit that I'm a little humbled by the request to come and talk because we're not a RHIO, so I probably don't have some of the depth of experience of some of the people around here, but I think we do have some interesting points of view that are a little different than other people's.

The second piece of knowledge and work that we are working on is that we are Oregon's regional extension center at the exact same time. We were awarded that in the first round, and Oregon has got an interesting background because we're 65% adopted on EMR, and many of them are on hosted platforms. So the ability for Oregon to, I think catapult is the word I would say, into exchanging data and exchanging information is really close to a tipping point if we could find some ways to do it in an effective way.

With that adoption rate and the HIOs that are being created, there are seven of them across the state. Our particular state is really headlong into this particular discussion, and we were talking about it actually yesterday at the state level with all the stakeholders across the state. I think that that's also important.

Since I'm here, I have a couple of plugs to make. Even though we're talking today about the provider, basically the clinician side of it, I would encourage us to continue to push the envelope from the meaningful use standpoint and the requirements. Those requirements are going to help all of us make sure that we're doing this, and I'd like us to continue to push those into the second round, into the third round.

The other thing is that even though we're talking about technical things today, I have to admit that my day is usually mired in the business model issues with this. I know that's not the topic for today, but once you resolve the technical issues of this particular conversation, the business model issue still doesn't go away for us. The question is, who is supposed to pay for it? Even with all of the money that's being issued to help build the infrastructure, the ongoing costs of it are challenging at best, and I find myself in a situation with a lot of data and a lot of information, and I'm doing everything I can to get it into the hands of the hospitals and to other places where it needs to be so that the patient's care is improved. But I still have to deal every day with how to pay for that, and that continues to be a challenge.

Just a couple of comments, just from the things I've heard this morning and, I think, the things you're going to be talking about later. I'd encourage you to standardize the approach as much as possible, make it as cost effective as possible, embed it in the EMRs as much as you possibly can so that when we go out on the regional extension side, we can require this, and we know that it'll actually happen. I know that not all vendors are created equally, and that we are experiencing some difficulties and challenges related to this actually in other areas through the contracting we're trying to do through the regional extension center.

The physicians would like as few of barriers as possible for them receiving the data directly. Every time we put something in their way, even a little bit, on our pilots, we see the utilization reduced, so that's something for you to consider and think about. I know that's a fairly obvious point, but from a practical experience standpoint, we really are seeing the data that's showing up. So the more that it comes from a trusted place, and the more that they trust, and we can verify and certify, I think, the more important, the more successful it's going to be.

Steven Stack – St. Joseph Hospital East – Chair, ER Dept
Dr. Waldren?

Steve Waldren – AAFP – Director, Center for Health IT
Good morning. I'm sorry that I'm not able to be there today. I'm actually in Denver at our annual assembly. Before I … my comments, I just want to give you a little bit of what happened yesterday. I had the opportunity to talk to a couple hundred of our physicians about HIT and meaningful use. One of the topics that came up that a lot of people wanted help with was this notion of exchanging information with their colleagues and a lot of the troubles that are there to do that. It was reassuring to be able to tell them that we'd been working with the HIT Policy and Standards Committee and ONC and the folks at NHIN Direct to tell them these problems. I want you to know that I think our members are trying to really take advantage of these technologies to really improve care, and I just wanted to commend you on everybody's work and continue to keep up the great work.

It's a pleasure to talk to you today at the taskforce about provider directories. Although I think they're not absolutely necessary, as Arien kind of alluded to, directories can play an important role in … exchange among … parties and enabling exchange among unknown parties. I think directory technology has been around for quite a long time and, for the last decade, we've seen advances in distributed and federated directory technology. Based on the conversations that I've been involved with … I think we must consider the risk that over-designing and too early implementation directories that might actually hinder the healthcare delivery … underway … care organizations and patient and medical homes and … other emerging trends. For example, more physicians are kind of going to part-time or working in multiple settings.

In the yellow pages directory, the questions is, would the patient's physician be required to have a different directory for each clinic? Could the physician be forced to maintain different … in different directories? Would the physician be required to declare a practice size? I think the yellow pages … two important topics: identity and profile. My identity will not change like demographics … patients practice setting will change. I may also have different profiles based on different practice settings or roles. I may also want to restrict access to some of my profile information based on who is requesting it, such as a different … patient versus a health plan versus other providers.

Open ID is a standard used by many Internet … today that demonstrate the power and flexibility of separating identity and profile.   Going back to accountable care organizations, perhaps exchange ID would be to based on presence. In other words saying that if I'm seeing a patient in the exam room, and I want to … consult … endocrinologist … if I can see that she's online and available, and I can quickly … her and ask my questions, and I can get an answer right there while the patient is in the exam room. No need for an appontment for her. No need to wait. We can actually implement those things right away.

Provider directories must, of course … paradigms and healthcare reform, or the industry is going to have to find other ways to accomplish the task. We believe that provider directories must, one, be voluntary, which means that they must provide value for participation by providers and others. Two, to separate identity from profiled information. Three, allow the users to restrict access to information in the profile. Four, federate to allow queries across directories. Five, focus … minimal requirements to operate a directory such that we … unintended consequences … earlier technology. Finally, that it be local in scope. We're not … members … willing to be a national level, and a healthcare is really local.

This ends my comments. We're excited to assist with further work, and we look forward. We really hope that we get the needed infrastructure for the continuity of care and care coordination. We believe the NHIN Direct project will be a significant advancement in this regard, and I think establishing provider directories, working … thank you, and look forward to the questions.

Steven Stack – St. Joseph Hospital East – Chair, ER Dept
Dr. Nigrin?

Dan Nigrin – Children's Hospital of Boston – CIO
Thanks for the opportunity to come and speak. Although I am CIO at Boston Children's, I think I'm here primarily because of my clinician role, and so I'll try and interject some of those practical examples of still actively seeing patients into this discussion. I think the provider directory, this initiative and this concept is absolutely critical to health information exchange in this country. You can imagine a beautifully designed health interoperability platform with lots of sophisticated technology. Yet, as a sending provider of information, if I don't know exactly which other provider I need to send it to, and exactly by what mechanism I need to get it there, then it will fail. So I think this is an incredibly important aspect of the health information exchange efforts that we're all working towards.

Being a resident of Massachusetts and New England, and working them, I'm fortunate to have participated in the NEHEN, New England Health Exchange Network, activities for over a decade now. And although, as many of you know, it's been primarily focused historically on administrative transactions. Over the past several years, it's now expanded its goal to include clinical transactions as well. We've started to obviously incorporate elements of a comprehensive provider directory there as well. I won't steal Greg DeBor's thunder because I know he presents later this afternoon, so that's all I'll say about NEHEN. But suffice it to say that we've begun to test these waters already, and have experienced lots of the challenges that many of you have as well.

There are a few key attributes of any provider directory that I think are critical. The accuracy of the directory is probably number one. There's no easier way to disenfranchise providers and organizations if data is wrong. Especially with all the scrutiny around protected health information and so on nowadays, all that has to happen is for a few transactions to go to the wrong provider or to not even a provider to some lay citizen, and we've got real problems on our hands. The accuracy, I feel, is an absolutely critical need. In a similar vein, the comprehensiveness of the directory is important. This health interchange process will fail if we can't route 10% of the bits of data that we want to route to their appropriate recipients.

The flexibility, I think, is key. I read through some of the other members' testimony, and several folks have touched on this, as well as some of the folks speaking this morning. Many providers nowadays work at more than one institution. They don't have a single place that they should be receiving information at. How is the directory supposed to know which of those places to route information to? If

you think about it, it's almost a per patient, per provider level of detail that needs to be achieved, which is a tall order.

Claudia, I made note of your comments right up front where you mentioned the payer databases as perhaps one area that we could start to look because I hadn't thought of that, but that's actually a potentially useful treasure trove there. That could theoretically get down to the per provider, per patient level of detail that I think we'll need to get to. Now I know I'm dreaming a little bit, but as a country doctor without my CIO hat on, I can dream, and so that's the level of detail that I think we should aspire to.

Finally, one of the last important attributes is the security and trust and auditability of directories. Again, with all those medical legal issues and the sort of national level scrutiny around insuring privacy of the data, I think we need to make sure that all of those i's are dotted and t's crossed. Recognizing that we need to keep it simple first, I think the things that I, as a CIO, and from an individual provider organization are going to be looking for are standards. What are the minimum data that are going to need to be housed in a directory? What are the mechanisms by which we can query it in a yellow pages format? What are the means by which we will need to send the document to be routed appropriately? Just those very straight, well, not straightforward, but I suppose they're straightforward, but not easy. Those things are the things I think we should be shooting for first.

In conclusion, with respect to the two different types of directories we've been speaking about, yellow pages versus routing, in my eyes the routing piece is the more critical to address first because, as I mentioned upfront, none of the health interchange is going to happen without good, reliable provider routing directories in place. The yellow pages components are going to be extremely helpful as well, but a lot of those functions are being managed by organizations by whatever means at this point. For sure, it will help to eliminate duplicative efforts at each individual organization, but I think we could survive for a while without the yellow pages piece. Thank you.

Steven Stack – St. Joseph Hospital East – Chair, ER Dept
Ms. Syth from Wisconsin?

Linda Syth – Wisconsin Medical Society – COO
Thank you. We've been in the physician demographic business for a long time, in fact, over 160 years. But in 2004, we began the process of taking our internal data and expertise and building an interoperable, flexible, provider directory. The one reason we did this was to improve the accuracy of quality and efficiency efforts, so that was a business use.

We have over 900 fields in our database, but we would say that the ones that are most important are the personal provider information, individual practice, office hospital practice location, specialty and certification information, education and training. As with any provider group, we would say that the standards are imperative, and as we put ours together, we were surprised at how much work could be done here, so we would welcome any effort there. It can be as simple as the University of Wisconsin Medical School changed their name. What happened through the nation? It's different everywhere.

We would say that accuracy is critical, and folks would expect over 95% accuracy, but I would tell you, physicians expect more than that. They expect 98% to 99% accuracy. One provider must be one provider and, in Wisconsin, over 70% of our physicians practice in groups of over 100. Eighty percent of their patients stay in system, and they have an EMR, so there have to be clearly the relationships between the organizations, where they practice, and the physicians need to be pointed out. In attachment one, the last sheet, I showed you the complexity of that relationship. It is society's core business to have the latest information about physicians in our state, so Doctor Connection is the most accurate.

We have three different ways for folks to update the directory: physicians or delegated staff can make those changes, electronic loads of the data, and our own staff. I would tell you the most used is our own staff making those changes. It's very costly, but it's a barrier to use the others, so that's what people choose to use. One good lesson we would like to say is every state has different entities whose core

business it is to keep provider information up-to-date, and we should use those entities because that is the most accurate.

I would tell you that in Wisconsin, the Wisconsin HIE funding was $9.4 million. One million has been spent developing our strategic and operational plan. We have $8 million left, and if we don't use the resources that we have as the society, we are sunk. And so that is the model. The medical society provides our provider directory for the Wisconsin Health Information Organization, which is our all claims payer database. When we use the payer database, it was about 79% accurate. The claims database has gone up to 95% accurate since they use our data. Then we also are used for the Wisconsin Collaborative For Healthcare Quality as their database for the hierarchy matching, and we are also planning to be the directory for the state designated entity.

I would say those are the main points that I would like to make. It's very critical that the entity that's taking care of the accuracy has a business user reason they're doing it and accuracy is critical. Thank you.

Steven Stack – St. Joseph Hospital East – Chair, ER Dept
Thank you, everyone, for keeping pretty close to on time. We've got just under 40 minutes here to have a dialog and still be on time. If I could ask a question first, and then if we could open it up. I'd like to ask, if you're on the phone there still, Dr. Waldren, if you could explore just a little bit more because it would help me so I can understand the work we have to do here about the caution you raise about not over-designing the system at the outset because I think we've heard from multiple folks the other side of it that there is a need for standards and standardization and some source of definitions at the beginning. If you could explore that a little bit, and then I might be interested if the others on the panel have any other thoughts on that same topic.

Steve Waldren – AAFP – Director, Center for Health IT
I agree with the need for standards. I just don't think that we should get too far out in front of where the market is at. When we think about, let's take medical home for example, I may not have a practice location. I may have a population that I serve, and I serve them at home, or I see them at another place, but I don't technically have a practice. So when we say it's part of the profile that your practice setting has to be there, and you don't think about that … there.

I think the other thing we can do is take advantage of some of the, from a technology point, things around the service oriented architecture. One of the reasons that I picked on the notion of separating the yellow pages into identity and into profile, you know, the ability of having a standardized profile, standardized routing, I think those are actually not to change significantly. You need to find the interfaces between those two that allows you to make minor changes in both of those and still not affect overall systems. The same thing with the profile, and I think the profile is the one that probably is one that's going to require the most kind of restructuring.

Again, I agree with the standards. I just think we should try to stay with what's needed today, what can move the needle today, where the culture, where the business models on, and focus that. Not put a stack together on where the theoretical things … this is what we would love to have, and the find out that our care delivery models have changed, and it gets in the way.

Steven Stack – St. Joseph Hospital East – Chair, ER Dept
Were there any other thoughts before we move on? Dr. Nigrin?

Dan Nigrin – Children's Hospital of Boston – CIO
Yes. I'll just say that I completely agree with that premise. We've got to start simple despite the fact that I threw this big, hairy problem out there trying to resolve down to the provider/patient. I recognize that that's going to be a big, enormous challenge, and so I'm all for keeping it pretty straightforward and simple at the outset. Otherwise we won't get off the ground.

Steven Stack – St. Joseph Hospital East – Chair, ER Dept

Dr. Thornton?

Sid Thornton – Intermountain Healthcare – Senior Medical Informaticist
I guess I am somewhat of the opposite view in terms of planning. I think we would be better served if we had a significant detailed plan and then prioritize the functionality. I agreed kind of with the earlier speaker saying that our first priority needs to be in terms of positive identification of the entities and the clinicians, and then we can work down the list, but I think we need a plan. My second comment would be that today we operate in a master directory of directories. Using algorithmic translations that the subtle issues or even substantial issues among contributing sources can be resolved with technology, so I wouldn't get too hung up on having everything perfect, but I think we need to at least plan for as comprehensive as we can at this point.

Abby Sears – OCHIN – CEO
I think I would only just add one other thing. It strikes me that with the pilots that we're doing, we've taken more of a facility route or an entity route, if you will, and if you really think about the 80/20 rule, you're able to accomplish a great deal of what you're trying to do by taking that route. I don't think it's an either/or. I actually think it's a hybrid approach that we really need both the provider directory and the entity directory, or as the person on the phone said, a profile as another way to describe it. But really, if you just take the facility or entity approach, you can actually—most of our referral patters are within an 80—I mean, I'm doing a lot of this stuff just because I know that patient lives in a particular area. I know where they're going to be going and where those entities are going to be providing care, and I can start moving that data fairly quickly. I guess I'd say I'd second the keep it simple and grow with it, as you're building the provider directory at the same time.

Linda Syth – Wisconsin Medical Society – COO
The other part of keeping it simple is the cost. For us to build our provider directory, it was over $3 million. If you only have $8 million left in your state designated entity, you have to keep it simple, so you keep costs down.

Steven Stack – St. Joseph Hospital East – Chair, ER Dept
Micky, Carl, and Walter … see any hands.

Micky Tripathi – Massachusetts eHealth Collaborative – President & CEO
I had a question for Linda. You said that most of the updating actually happens with your staff doing the physical updating. How do they know about the changes that are happening?

Linda Syth – Wisconsin Medical Society – COO
We actually get them from the systems. We often get a bulk load, and then we go ahead and put it in. But we do an audit process. If you looked at the slide, we have 13 steps that we do an automated look, but then anything that queues out, the staff looks at if it doesn't match to make sure we have one provider as one provider.

Micky Tripathi – Massachusetts eHealth Collaborative – President & CEO
What about small practices or two solo practitioners decide to create a partnership or something? How do you do this in a small practice? I can understand with big organizations, but with small practices, I'm not fully understanding how that works.

Linda Syth – Wisconsin Medical Society – COO
We have a whole distribution network, feet on the street, as we call it. We have an insurance agency that's out. Most our clients, we have about 80% of the small practice business base that are our insurance clients, and so we have a lot of distribution out that allows us to know about these changes. But we also scan a look at a lot of different directories, and then we retail to the practices quarterly.

Micky Tripathi – Massachusetts eHealth Collaborative – President & CEO
If you had to guess, how many FTEs do you think it is?

Linda Syth – Wisconsin Medical Society – COO
I have the number for you. It cost us $700,000 a year to really do all this reach out for the technology, for all of it. It's not cheap.

Steven Stack – St. Joseph Hospital East – Chair, ER Dept
I think Claudia was up there with your standup, so do you want to jump in, Claudia?

Claudia Williams – ONC – Acting Director, Office State & Community Programs
I think this question that Steve and others have raised about the potential complexity of tracking both identity and entity and affiliation is really core and has come up a lot in our taskforce discussions already. To this point of only adopting as much complexity as you need, I guess I have two questions. One, it does seem like for the kinds of use cases we've talked about so far this morning, many of them would require an ability to link a clinician to the specific site where they have made an order or doing something. I guess I have two questions.

One, does that reflect your experience of how you need to use a provider directory? Second, I'm thinking in systems like Intermountain and Children's, surely there are clinicians who are practicing both in the hospital setting and ambulatory who have multiple sites, even within that system. I'm wondering how you tackle this issue and whether, as you think about the kind of core businesses you've needed to support to the provider directory, if it's risen to the top in your mind.

Dan Nigrin – Children's Hospital of Boston – CIO
I can start on that. First, the last question first, we're fortunate in that even though we've got multiple locations, we're using a singular electronic medical record that operates the same everywhere. So whether or not the document gets routed to the Longwood site or to the Waltham site, it's going to the same site, and the clinician gets access to it. But the first part of your question around how have we dealt with this, because it does come up in the real world, right? I think the very simplistic and okay approach that we've taken initially is to have providers declare a default, so if they work in multiple locations, unless the sending organization happens to know which particular site is the relevant one, if they don't know that information, then they send it to the provider's default that the provider has delegated. It's an unsatisfactory solution for sure, but it got us up and running.

Sid Thornton – Intermountain Healthcare – Senior Medical Informaticist
I agree that just as in your example there at Children's, we allow patient preferences to be set, and so patient—excuse me, provider maintained preferences. Second of all, we have some ability to do rule based analysis to determine that the affiliation based on the nature of the inbound transaction. Thirdly, because we are not on a single system, but we have integrated systems, some of this functionality is relegated to the data consuming systems of the master directory. So, depending upon the functionality of the specific applications that are using the information, you may have richer or less rich routing functionality and capabilities.

Steven Stack – St. Joseph Hospital East – Chair, ER Dept
Dr. Waldren, not to solicit in everything, but since you're on the phone, you're at a disadvantage. Do you have anything?

Steve Waldren – AAFP – Director, Center for Health IT
Thank you for making sure that we're taking care of our disadvantaged folks. I appreciate that. No. I think a couple things: I had talked with a lot of our docs yesterday about this, but they struggle so much now with just getting the data from their colleagues. I think they're more than willing to put the effort needed to make sure that this information is correct, and I think that goes back to my comment about making these voluntary as opposed to mandatory directories. It has to generate value, and I think if these directories generate value and make it easier for docs to get access to the information and to send information, I think they're more than willing to make sure that that information is up to date and is accurate. If it doesn't have value, and it's just mandatory, they're probably not going to make sure that it is accurate, and it's going to be a self-fulfilling prophecy.

Steven Stack – St. Joseph Hospital East – Chair, ER Dept
Carl?

Carl Dvorak – Epic Systems – EVP
A question for all the panelists, I guess. I grew up in a small town, so my phonebook was about a quarter of an inch thick, and I think about a sixteenth of that was the yellow pages. Then I moved to Madison, and it looked like about five inches thick and about two inches was the yellow pages. Then I came to Boston for the first time, and there were two books with yellow pages in the room.

As you think about the physical implementation, does anything strike you as an obvious choice with regard to a physical, national implementation of an entity directory with possible local implementations of yellow pages directories? I envision a very crowded yellow pages and a higher potential to select something … later to find out it wasn't actually the best choice for you because there's too large of a selection list to choose from. Any sense on if you would envision? My question specifically is, would you envision a national routing directory, local routing directories, and/or a national yellow pages directory or local yellow pages directories? How would you pick on both of those …?

Dan Nigrin – Children's Hospital of Boston – CIO
Carl, I would envision at a national level some of the identity level data. It might make sense to house it at that degree of scope, so my official name, my NPI obviously, perhaps my qualifications with respect to board certifications, things like that. But I agree with you that the sort of nitty-gritty, the practice locations and so on, that's probably best handled at the local level. That's my sense anyway.

Abby Sears – OCHIN – CEO
I guess I would say that I have thought about this a little bit, and I kind of have to agree with Dan. But I had one thought that jumped out at me immediately when I began to have this discussion back at the office, and that was the regional extension centers have, they should have, and they're required to have a composite of the NPIs of the providers at least that they are serving and, as I understand it, every geographic region is actually covered in the state. So you could look at an approach that's national and local that's already on an infrastructure that currently already exists.

The other thing that I think about is to what degree CMS is involved in that as well, and is there any value in that. The third thought that jumped out at me was, I kind of went through the back of my mind about how did Surescripts do this and what approach did they take, and what do we have to learn from that?

Steven Stack – St. Joseph Hospital East – Chair, ER Dept
Dr. Waldren?

Steve Waldren – AAFP – Director, Center for Health IT
I think the routing needs to be national, but as long as I know the identity and I find that out on my own, I can do that. I think the other things need to local when we look at the NPI database for example and try to do some stuff in that early days of meaningful use and the RECs to figure out where the docs are at. That data is not very accurate. I think, at a national level, I just don't practically think that makes sense. I think starting locally makes sense. As we move forward, it may migrate up the chain to a more national directory, but I think local makes a lot more sense today … national ….

Steven Stack – St. Joseph Hospital East – Chair, ER Dept
Linda Syth?

Linda Syth – Wisconsin Medical Society – COO
I think the routing benefits from a national, at least from a standards approach, but it might be implemented a bit differently at the state and regional level depending on how practice is operated. But I think the yellow pages has to be local. We have a lot of father/son or other different folks that have the same name, and that just gets lost in the shuffle.

Steven Stack – St. Joseph Hospital East – Chair, ER Dept

Walter?

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Thank you very much for the incredible testimony. I have two questions, and I'll make my first. One of them deals with yellow pages, the other one with the routing directory concept. Then both of them are related to the priority uses and, I think, Sid, you sort of alluded to the prioritization, and a couple of other people have alluded to the prioritization of the uses of these two concepts and talking about functional uses. For the yellow pages, it seems to me we're all talking about the ability to positively identify a person and an organization, so both the person and organization. That seems to be one of the higher-level priorities.

A second level, and I'm proposing those and see what is your reaction if there is a change in priorities or other priorities that you see as functional needs. The second one is really this concept of determining affiliation. We're actually getting some rain inside the room here, so it's an interesting experience. For those on the phone, we're just getting some rain inside the room, so I'll stop for a second here.

M
Walter, you made quite an impression.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
It looked like that, yes. Rain through the roof. I thought we were on an underground floor here, but …. The plaza is on top of us, so there's probably a pooling on top of it. Anyway, well, now we're ….

M
…still turn down ….

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Yes. There you go. So I was mentioning the priorities that I have gathered on functional capabilities of the yellow pages: one, the positive identification of clinicians and of organizations. The other one is determining affiliation, and this one elevates the complexity of the yellow pages because it begins to get to constantly changing and updating the directory. Then the third one, which is even more, at a much higher threshold of responsibility, let's put it that way, is validation of the medical credentials because one thing is to have in the yellow pages that I am a doctor and that I have board certification or board eligibility on the specialty. But another thing is really to rely upon that information to do something about it. That reliance on the validation of … credentials seems to be a much higher level of threshold. I'll stop there and see, for the yellow pages, what are your considerations about the priority functional capabilities of the yellow pages.

Sid Thornton – Intermountain Healthcare – Senior Medical Informaticist
I agree with the prioritization. I would make a few comments in that on your second priority that it's a determination of affiliation that the level of granularity that's required outside of the locale or even the network probably would be sufficient if it were with the entity, the primary entity affiliation, and much of that can be resolved based on the inbound transaction. I don't know that the work of maintaining affiliations outside of the network would have the most benefit, so I would say we could get 80% of the distance if we could just resolve the positive identification problem. From my use case perspective—and that is where we already have a relatively robust directory of directories, which manages credentials internal to the network, which manages the alerting affiliations and even, to some extent, the patient's provider role—I don't know if that makes sense. If we could solve globally or across networks positive identification, I think the rest of them, we would inherit naturally based on the expertise found within the connecting networks.

Linda Syth – Wisconsin Medical Society – COO
I would say a lot of it depends on the use case. In the state of Wisconsin, because the use case is around high quality, efficient care, the affiliation is critical because it's where you report. So that is part of the attraction of our database for the other entities, or all claims database, or the clinical database, is

those affiliations. Yes, I think you have the order right, but depending on the use, that number two can be very critical.

Dan Nigrin – Children's Hospital of Boston – CIO
I'll echo what Linda just said, but I'm going to focus actually on number three, and I'll even add a fourth just to throw a wrench into the works. So the credentials validation is from an organizational perspective something that I think all of us do on a routine basis. So if you think about the redundancy of effort that happens across all of the organizations across the country, it's a huge amount of work that could be subsumed by a singular, authorized, credentialing body.

The fourth one that I wanted to add, I wrote in my written testimony, but didn't mention previously, and that's the issue of authentication of an individual as well. So the use case that I'll throw out there is we're obviously talking about pushing information to providers, but many of us in the provider world also provide for pull functions via provider portals and such. The identification and, subsequently, the authentication of providers, as they come into our provider portal, is a big challenge, especially when we're dealing with providers who are not frequent customers of ours and who are referring a patient from across the country and so on. Again, this is another one of those bigger challenges, and I submit is probably not priority one, but I'd love to keep it on the list.

Abby Sears – OCHIN – CEO
I think that for the first two, I really can't wrap my head around how you cannot do both of them. When I go to the second level of the sites just sharing of information, which maybe I could pick one or the other, when I go to actionable data and thinking about how do you really do quality improvement using the exchange and the sharing of the information, you have to have goals, and I can't quite figure out how you do that without doing both at the same time. I wish that in my head at least, I could create a priority for you that looked different from that. But we're past the stage of just moving the data. We're thinking about what are we going to do once we move the data, and can we get to actionable data? That requires a level of sophistication that doesn't triage or prioritize in that way.

On the credentialing side, what I'd say is I don't know how or where you are, and I'm only a tiny bit aware of the five state project for credentialing and to—Claudia is nodding her head—the five stage project across five of the different states that come together and build a credentialing project. Instead of each state doing their own Medicaid credentialing, they're actually doing it as a joint to see if they can leverage it across the country so that that process isn't recreated. It seems to me there might be a learning from that project that could be helpful, that could be extendible or leveraged in that part of the conversation in some way.

Steven Stack – St. Joseph Hospital East – Chair, ER Dept
Walter?

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
I do have a second question, and that is, of course, on the other routing directory. So my three priories on that, and it links to one of the notes that Dr. Nigrin mentioned. Clearly for routing purposes, now we need to do at least three things: identification, verification, and authentication. Identification meaning the identification of the individual and/or organizations at rest so that it can be appropriately routed, the message. We're talking about now the routing directory, the table that allows that. The yellow pages tells me who they are and all the background, but the routing table tells me where to send it, so appropriate identification.

Now then the second one is verification of electronic credentials, not medical or practice credentials, as in the yellow pages one, but here we talk about the electronic credentials themselves, the digital signatures or keys. Then the final one would be, in my mind, what Dr. Nigrin mentioned as his fourth one for the yellow pages is the authentication itself in the routing directory, the capability at least of complying or achieving authentication. Could you respond to that set of priorities for the routing directory?

Dan Nigrin – Children's Hospital of Boston – CIO

Yes. I think, Walter, you've got it right again. The verification and the authentication step in the computer digital world, I think, there's overlap there. But for sure, especially with the security high bar that we're going to need to adhere to with all of this stuff, I think it's absolutely critical that it be there, so right on the money.

Steven Stack – St. Joseph Hospital East – Chair, ER Dept
Go ahead, Steve.

Steve Waldren – AAFP – Director, Center for Health IT
I just want to make sure that when we talk about identity and authentication that when I talk about identity, I talk about identity proofing to verify that I am actually Steve Waldren, and not waste time, and then I'm given credentials, but then I … authorization … authentication at a later time. I think there may be some ability for us to say what's the minimum level of authentication that's required such that … policy kind of … federated kind of directory where this routing can happen. But I don't know if there has to be a lot on the authentication piece above that.

Steven Stack – St. Joseph Hospital East – Chair, ER Dept
Go ahead, Sid.

Sid Thornton – Intermountain Healthcare – Senior Medical Informaticist
I guess, based on our implementation, and again, I understand that much of this functionality is already being covered within our network. I am wondering— I don't know the answer on this, but I think it's worth considering if there could be a separation of the routing technology from the validation and authentication services. I guess, as I hear the discussion coming back, they seem to be commingled. I'm not convinced that they couldn't be separated because an institution like ours may take full advantage in a service oriented architecture of validation services, but we may still use our own routing technologies and connection technologies.

Steven Stack – St. Joseph Hospital East – Chair, ER Dept
We've got about 11 minutes, and I've got 3 to 5 people on the list depending. I have to ask a couple things. Jonah?

Jonah Frohlich – HIT at California HHS Agency – Deputy Secretary
I had six questions. I'll just keep it to one. Dan, in your testimony, which I thought was really interesting, all of yours I thought was interesting, but raising an important question is regarding whether to have information about how to identify and send messages to providers, organizations, or specifically to them, you said that both were needed. Then you said, in some cases the workflow of a provider's organization is such that inbound data is triggered, and then manually routed to the individual providers by multiple mechanisms. In another, a provider is anticipated inbound and go directly to them, i.e. their inbox. So you basically need both in that scenario.

What I'm wondering, and I'm asking you, but also asking the panel this, and can you envision a service like this where it's the organizations, whether it's the Children's Hospital, where it's a practice, or whether it's another entity that actually is themselves managing and triaging and has a set of rules that it establishes to say if it's a message, if this is the kind of message, these are the rules by which it should go out into an individual inbox or the physician who is on call for that individual or to a department or an entity. If so, is that the kind of service that you as a hospital CIO would want to manage yourself and find value in being able to do that?

Dan Nigrin – Children's Hospital of Boston – CIO
That's an easy response to the second part. I never want more work, but absolutely. I think you could envision a model in which the routing directory's job was solely to deliver it to essentially the gateway of the organization, whether that's a small practice or a huge network. From there, it's the organization's responsibility to do whatever it is they are going to do with it. That may be routing it to the individual provider's inbox for documents. It may be printing it on paper and sneaker-netting around the

organization. That's up to them. With respect to keeping it simple, maybe that's the approach that we need to take at the outset.

I will tell you that with my CIO hat on, that's a challenging problem internally, especially if we're going to get sophisticated and say, okay, well, this bit of data, that should go directly to the provider. This other type of data is less of an emergency. It can be dealt with a week later and so on, so it's a thorny problem, but I think practically it may be that we may need to accept just routing it to an organization's front door as part of the provider routing function, and then letting them take it from there.

Linda Syth – Wisconsin Medical Society – COO
I'm going to sound like a physician organization now, but I don't think we can lose sight of the liability in all of that.

Sid Thornton – Intermountain Healthcare – Senior Medical Informaticist
I would agree. I think our organization would prefer actually to receive the message and handle it because what we want to do is verify the integrity of the data itself and have an opportunity for our internal algorithms to cross-check that data because ultimately we'll be accountable for the distribution of that message and ultimately its content. I think we would prefer the simpler model to handle it, and we have emerging systems that handle those issues today for internal messages. We would love to be able to integrate with external systems as well.

Abby Sears – OCHIN – CEO
Two things jump out at me. The first one is that I wonder how much the EMRs can take care of some this. I don't know what their capabilities are necessarily right now, but it may be different as we go forward, and that may take some of the question off the table. The second thing makes me think of what we're comfortable with now. We may be much more comfortable in five years. I wonder about building infrastructure or building strategies that are for today and that are not for tomorrow because the sharing of information the first year is going to be challenging and hard and nerve-wracking. The sharing of it the second year is not as much.

The sharing of the third year doesn't even cross your mind. Having 39 organizations use one master patient index and all sharing and documenting in the exact same patient record in seven states. I can tell you, when we built it, we were very afraid. We don't even think about it now. So what we do now, we may not be as concerned about later.

Steven Stack – St. Joseph Hospital East – Chair, ER Dept
Did you want to be on the list, Jim Buehler?

Jim Buehler – CDC – Acting Director, Public Health Surveillance Program Office
I have a couple of questions. I'll start with one, which is, Dan, I think it was prompted by your testimony, which I'm trying to sort out what sounded like a conflict to me. At the one level, we want to keep it simple, so we don't boil the ocean, so we have a good starting point. Everybody says routing directories is the place you need to start, but there's a lot of concern. You expressed it quite well and succinctly about we really can't let this stuff go to the wrong place, which says you really need an authoritative and really highly accurate and comprehensive yellow pages or something like that or a manual process or something to make sure you don't have the tape on the dump truck or a message get delivered to the wrong place, that kind of thing. I'm wondering if all of you actually have a perspective on how you start at a minimal place, but avoid this looming problem of making sure you have the right level of security and authentication capabilities that you don't pursue these more expansive activities.

Dan Nigrin – Children's Hospital of Boston – CIO
In some ways, the situation is no different than it is today. Now we, as individual organizations, have to gather this data, whether it's faxed data, snail mail data, in some instances electronic data. We're gathering it and pruning it and validating it on a regular basis, and we still have errors routinely come up. I think, as we think about sort of an electronic, more expansive model, at a minimum, we have to assure ourselves that we've got at least that good of set of data.

The other point that what you just said brings to mind for me was in the questions, this notion of is this mandatory, or is this voluntary? In my mind, I see some benefits to carrots dangled with respect to, you'll get information about your patients, and it really makes sense for you as a clinician or organization to keep this data accurate and up-to-date and correct. But knowing physicians, and knowing my own habits as well, sometimes you need a stick. So I think that it may be that to some degree, we need to make this contingent on part of medical licensing requirements or so on.

Obviously that frequency is poor. I don't know how often you've got to renew your license, but it's years between the instances. But at a minimum, you would at least get data refreshed to that level of accuracy. Yes, I'm conflicted.

Steven Stack – St. Joseph Hospital East – Chair, ER Dept
All right.

Abby Sears – OCHIN – CEO
I think it's a even just a little more challenging than that because once you start moving data, you need to know that the data you're moving is good data because otherwise you're going to have an issue on the other side. So it's not just the credentialing. I mean, we're talking right now about a provider directory, but imagine having solved that problem and talking about integrity of data. What do you do with physicians or organizations that don't maintain their quality and then what do we do wit that? There are other routes for that.

There are payment routes for that, but maybe that's going to be enough. Maybe it isn't. Those are the types of things that I'm worrying about with the data that we're passing to other organizations that we have a responsibility and an integrity issue to make sure that the physicians that are participating in our network are doing the best that that they can and that that data is good. Otherwise the patient is the one that suffers, so I would take it to a whole other level, unfortunately.

Steve Waldren – AAFP – Director, Center for Health IT
I think the issue of data quality and all those things are important, but think about where it is today and do we do that data quality on the … documents that we get? I think if we focus on the identity and making sure that the individual is identified, if we kind of limit the scope of their providers and only providers and organizations are able to be on the network and have routable addresses, then our list … are managed to at least a little bit of degree. Then I think there are organizations that the …create those directories based on the risk data that they have and tie that to the identity. As that seems to move forward, I think we will find standards that work and those can be then identified and pushed out to the broader audience from the national perspective.

Steven Stack – St. Joseph Hospital East – Chair, ER Dept
Let me ask one quick question real quick. Lisa, did you want to be on the list? No. Okay. We're pretty much out of time. I have Paul and Carl on the original list, so the question is, do you want to extend this a few minutes, or do you want to—I'm looking at Jonah, I guess, or Marty or Walter—do you want to let those two ask, or do you want to just move on?

Seth Foldy – Wisconsin – State Health Officer
Seth Foldy has one … question as well.

Steven Stack – St. Joseph Hospital East – Chair, ER Dept
Paul, go ahead. This is rapid fire around now.

Paul Egerman – Software Entrepreneur
I'll go fast. Thank you very much. Great presentations. I do have an observation I want to make before I ask my question. The observation is we were talking about a lot of use cases and a lot of our use cases we're thinking about how things flow right now. This is all about information exchange. If you think about this routing directory, one way to think about the routing directory, even instead of thinking about it at an

entity in the routing directory is you could think about it as electronic medical records in the systems in the routing directory. It's sort of like how does one information exchange, how does one electronic medical record system communicate with another electronic medical record system? That's really the entities that need to interact.

But my quick question is for Steve Waldren, which is, you talked about the things between identity and profile, which I think was very good, but I didn't understand actually what goes where. For example, where does medical credentials go? Is that identity or profile? Where does location go? Is that identity or profile?

Steve Waldren – AAFP – Director, Center for Health IT
Right. The reason I was separating those out is to say that you can use trust that that identity is the same person. I think there's the notion of a … profile that whoever is doing that identity proofing may have a … set of information, and whatever they deem appropriate to that level of trust … I am Steve Waldren. I think there's some basic information there that we can think about of maybe a main specialty, but it's pretty limited. Then there's the additional information or profile that's based on where I practice, what I practice, and those types of things. That's what I see as the profile information.

I think back to the new BEA rule on controlled substance, and the identity proofing and stuff that has to be done there. One thing is that when I sign something in the paper world, I don't sign a different document with a different signature each time. It's the same signature, and the same thing I think in the digital world when we think about identity and certificates. It's the same across multiple things, but it's not tied to a particular directory or a DEA thing or anything like that. That's why I see a lot of profile information come, and I think we could have multiple different profiles. But like the folks that work in Wisconsin, they have a very risk profile where I may just have a basic profile of my practice address and my name and my affiliation of medical school and that's it. People can determine if that's enough for them to find me and trust that I'm truly me and truly the doc they want.

Steven Stack – St. Joseph Hospital East – Chair, ER Dept
Carl had one more followup.

Carl Dvorak – Epic Systems – EVP
Many of our use cases talked about sending information to a destination. I think the other side of the use case list are a whole bunch of use cases that need to think about where to pull information from. That to me implies a need for a temporal perspective on where clinicians have practiced through time, so that when I show up at an ED in Boston, they'll pull a record from ‚80s from a Madison site, from the ‚90s maybe from a different site. Linda, I think, maybe in particular, have you had to tackle that issue through time in terms of maintaining a historical perspective on all that and what are other people's thoughts on providing real time access to historical affiliations so that I can pull together a composite record that might transcend many decades?

Linda Syth – Wisconsin Medical Society – COO
The real time can go back 1992, but in paper files, we can go back to the 1800's, so I would say 1992, and we do keep that historical information because especially when it has come to our work with the claims data, it is critical, and the clinical data to know where they practiced in the past, especially as more practices are purchased as well. You need to understand the change pattern.

Sid Thornton – Intermountain Healthcare – Senior Medical Informaticist
I would add that you need to be able to not only persist identities in perpetuity, but you also need a very robust mechanism for understanding how identities merge across time and across organizations. What's particularly problematic if provider IDs emerge at one institution and not at another, and you need to be able to understand how that's being sorted out and resolved through time. All of that has to be maintained and available. Our volumes today are over 90,000 providers that we continually manage, and I know that's not terribly large, but it's a substantial amount of effort.

Steven Stack – St. Joseph Hospital East – Chair, ER Dept

We had one person on the telephone who had the last question.

Seth Foldy – Wisconsin – State Health Officer
I think we're asking an awful lot of directories and their users here, and I just wanted to ask the panel, does anyone use the equivalent of registered mail. The U.S. Postal Service doesn't assume that it will always, every item is addressed appropriately or that it'll be delivered appropriately, so they create the sign before opening options.

Dan Nigrin – Children's Hospital of Boston – CIO
So the question is, in an electronic world, do we have that ability?

Seth Foldy – Wisconsin – State Health Officer
Yes.

Dan Nigrin – Children's Hospital of Boston – CIO
I think, with respect to logging and so on, I know in NEHEN we get alerted if a message was not for whatever reason routable to its appropriate or to its destination for whatever reason. Perhaps the destination is no longer valid or was unreachable. So we do have that level of sort of logging.

Seth Foldy – Wisconsin – State Health Officer
Yes. I'm really speaking about a point at which the human receiver sends a message electronically that says I was the intended addressee, and I acknowledge full responsibility for this document.

Dan Nigrin – Children's Hospital of Boston – CIO
Again, in the NEHEN model, we have the equivalent of someone at the front door signing for the package. What happens inside the house, we don't get visibility to. In other words, I know that a document was routed successfully to Mass General Hospital, but whether or not it was delivered to Dr. Jones' inbox within the Mass General, that I don't know.

Sid Thornton – Intermountain Healthcare – Senior Medical Informaticist
At Intermountain, we use a limited form for external communication, but primarily for the use case of data privacy and security where we use secured, registered, electronic communications.

Abby Sears – OCHIN – CEO
I think that we have the capability, or we're going to be having the capability for inbox-to-inbox or e-mail to e-mail between the physicians so that they can communicate across outside organizations. But that's just strictly speaking to the particular vendor that we're using. If that wasn't the case, then the answer would be no.

Steven Stack – St. Joseph Hospital East – Chair, ER Dept
I'm going to return this to Jonah. Don't step away just yet. Thank you very much for all of you in person and Steve on the phone for your time and your expertise. Jonah?

Jonah Frohlich – HIT at California HHS Agency – Deputy Secretary
To finish back to the public who are listening in and the public nature of this forum, I want to give those on the phone, operator, an opportunity to ask a question of the panelists if there are any, if the operator is there.

M
At the end.

Jonah Frohlich – HIT at California HHS Agency – Deputy Secretary
Only at the very end? But our panelists may not be here. Can we do it?

M
No, it's only public comment.

Judy Sparrow – Office of the National Coordinator – Executive Director
Operator, can you open the public line and see if anybody in the public wishes to ask a question of this panel? If we could also ask if anybody in the room wishes to make a comment?

Operator
We do not have any public comments at this time.

Jonah Frohlich – HIT at California HHS Agency – Deputy Secretary
Thank you very much. We really appreciate everything you've done to provide us with excellent feedback. I'm going to turn it over to my colleague in California, David Lansky, who is going to introduce the next panel. It's, again, a business requirements panel for health plans, public health, and others.

David Lansky – Pacific Business Group on Health – President & CEO
I'd ask the people on this next panel to come up to the table, if you could: Charles, Tom, and I understand Marty is on the phone from Minnesota perhaps. From Minnesota, perhaps, he may be anywhere. Is Karen here yet?

M
....

David Lansky – Pacific Business Group on Health – President & CEO
Is she joining by phone? Okay. Marty, are you on the phone?

Marty LaVenture – Minnesota HHS – Director, Center for Health Informatics
David, this is Marty. Can you hear me okay?

David Lansky – Pacific Business Group on Health – President & CEO
Yes. Very good. Thanks. You're going to be third up in our round robin.

Marty LaVenture – Minnesota HHS – Director, Center for Health Informatics
Terrific. I'll put my phone on mute here then.

David Lansky – Pacific Business Group on Health – President & CEO
Let me welcome you all. Thanks very much for making the time to come and join us today, as we really appreciate your expertise and your contribution to this discussion. I think everyone has the bios for our panel in their packet. I'll just mention who we have.

Dr. Charles Kennedy is the vice president of health information technology for WellPoint, a very large, national health plan. He's responsible for building solutions for the health plan data sets and how they're applied in clinical settings, as well as a number of innovative strategies to help propagate IT across the systems they serve as a whole.

Tom Morrison is the cofounder and chief strategy officer at NaviNet, which offers a large scale, multi-payer plural technology you'll hear more about. Marty LaVenture is the director of Center for Health Informatics and eHealth at the Minnesota Department of Health and is joining us by phone. Rob Chapman is the director of the Division of Informatics Solutions at the CDC's Public Health Informatics and Technology Program. Welcome, Rob. Karen Trudel, she stepped out. She'll be with us shortly. She's the deputy director of the Office of eHealth Standards, Karen, at the Center for Medicare and Medicaid Services at HHS.

Again, thank you all for coming. We'll try to keep to our five-minute opening rounds and then have a discussion. Thank you. Charles, you go first.

Charles Kennedy – WellPoint – VP for Health IT
I'll be very direct and brief and to the point. I have some slides, but I'm going to skip through them.

Basically health plans require accurate provider data in order to run the most basic functions of our business: claims processing, quality assurance, we go through a credentialing process, member services, etc. In general, most health plans don't see provider data as a point of competitive differentiation. It's something all of us have to do, and it's something all of us need it to be done well. So you've actually seen industry collaborations in the past, somewhat similar to what's being entertained here, and I'll just list one example. CAQH, Council on Affordable Quality Healthcare, has actually launched an initiative quite a few years ago to try and create clean provider data for multiple health plans to share, and there's also commercial vendors that many of us use to get access to clean, aggregated provider data.

The types of information that we require are generally focused on trying to adjudicate a claim, and so with regards to practice location, we do want to know not only who the physician is and the various credentialing information you see beneath it, but we also need to know where they practice. So you will generally find in many of these provider systems, which quite frequently are quite old systems, there may be a flat file, and you may see the same physician listed two, three, five, seven, ten times depending on the particular business relationship they have. They may be in an HMO, a PPO, a medical group, an IPA, etc. That level of complexity definitely has been a challenge for health plans to deal with when it comes to adjudicating claims. Generally, health plans have not collected electronic addresses such as e-mail addresses or any kinds of Websites that a physician might have. You generally won't find that in health plan databases.

What is the value of accurate provider data? I'll just go through a few of the very particular values. The first is auto adjudication, so this is the notion that a claim processes with no human intervention or no manual processing. If you don't have a way of accurately both identifying the provider, identifying where they're practicing, and identifying which contract applies to that particular service for that particular member, you run into all kinds of problems associated with rework, return mail. It drives customer service issues where the member will be calling, so this is a very, very important thing for health plans to have.

The second key value that accurate provider information creates is adjudication of the provider contract. That's a little different than the first one. The second one means that various contracts are maintained in various ways: fee for service, capitations, shared savings. All different kinds of contracts are out there, especially when you're a large health plan, and you operate on a national basis like we do. So many times you find that the system will have difficulties adjudicating or interpreting the contracts correctly, and so accurate provider data is a key enabler of adjudicating the provider contracts correctly.

Also, non-participating physicians, you may think that we only care about physicians who are in the network. Actually, nonparticipating physicians are often paid at different rates, and so if you don't have accurate provider data, you end up paying perhaps at a different rate, perhaps at a higher rate than you would from someone who is actually in network, so this is a very important function to have accurate from a claims cost or total claims cost perspective.

Then, finally, this is something that requires a significant amount of resources to keep accurate. Every once in a while you hear stories about members going into a provider directory and finding dead doctors still listed in the provider directory. It is a very time-consuming initiative. It's manual. And although there are automated services that are used, and I think Tom is going to get into some of those functions that NaviNet offers. In essence, is again something we need to get right.

Let me just close by saying this is the type of service that is already outsourced by health plans, and if HIEs were to become a source of accurate … provider data, you could begin to explore some interesting approaches where perhaps this might be a way of reimbursing HIEs and helping them with their business model issues.

David Lansky – Pacific Business Group on Health – President & CEO
Tom?

Tom Morrison – NaviNet – Chief Strategy Officer

I thought it might be helpful just to give you a quick sense of NaviNet because it's very directly related to the topic at hand. NaviNet has been working on this provider directory problem for about 12 years, in a sense. The nature of our business, we work with health plans, and we work with provider offices. We have about 900,000 providers at this point and about 200,000 offices that are in our network.

Basically, it's a federated model in line with much of the conversation that we're having today where what we have to do is we have to maintain, first, a NaviNet directory that is sort of the high level directory, which has all of our users and all of our offices and all of our providers and the provider entity relationships and the provider user relationships, all of which are managed by the local office on one end of the transaction. On the other end of the transaction, we have to map our provider directory to each individual's health plans directories for providers. So we have, and as Charles has described, typically in a health plan there is not one unified provider directory. It's very, very expensive to maintain a unified provider directory.

What happens in most health plans is you have a provider directory for your PPO product. You have another provider directory for your captative providers, etc. You have a different provider directory because it was an acquisition, and you have two different claims systems. There are a host of reasons in each individual payer as to why there are multiple provider directories.

I think the other key factor there is that each of those provider directories tends to have different information because they're all supporting a business process that is different. The business process associated with capitation has a different set of requirements in a provider directory than a provider directory that's supporting PPOs or out of network docs. That's just a quick background on sort of NaviNet. You're going to find a lot of commonalities. I'm going to try to skip sort of the common things and move to some perspectives that are perhaps a little bit different than what you've been hearing.

The first is that one of the things that I think is extremely important is to recognize that data is a byproduct of a business process. You don't start with data. You start with a business process, and that business process cranks out data. That data may be very useful, but if you don't have a business process that creates it, and there aren't investment dollars that are going into creating that process and building that database, you don't have a place to start. That's a fundamentally different way of thinking about this challenge.

I think, in a lot of our conversations at the policy level, we start talking about data. How are we going to get the data? How are we going to build the directory? That's not really the point. The point really is how are we going to create the business processes that create the data and maintain the data and keep it clean and accurate as we've been discussing? It's not just a matter of collection and deciding what the data standards are for those particular data elements. It's much more complex than that.

I think we have to find ways to leverage existing industry processes to make that happen and perhaps create a few new ones. Just as an interesting example of sort of leveraging processes, the red carpet club, which is United's red carpet club at the airport is something kind of interesting. Originally, they issued cards for every member, and when you checked in, you had to present your photo ID and your card, so they could let you in. Then someone has a brilliant realization that, wait a minute. TSA already does that, so TSA, when you get your boarding pass, is making sure that boarding pass is really you, and that's part of the process.

What United did is they changed the process and said, just give us your boarding pass. We don't need a card. They don't need anything else. They could totally leverage an existing process and map that to their member files and figure out if somebody was a member. It's that kind of thing that I think we have to do around provider directories, and actually everything associated with NHIN is how do we, in interoperability, how do we leverage existing processes to make it feasible? At NCQH, I'm sure you'll hear more about that. It's a good example of the credentialing process as a byproduct, which is a lot of provider data that can be leveraged for this purpose.

I think the second key point about provider directories, and I join the crowd that says routing comes first. But I think here's the nuance of difference. I think the key to the provider directories for routing is that it has to be very, very rigorous. If you think about it, basically what we're talking about in provider directories is the equivalent of URLs and TCIP in the Internet world. If you put in a site, and you get to a different site, you're going to be pretty unhappy. Or if you create an e-mail and send it to somebody, and it shows up that it goes to somebody else, you're going to be pretty unhappy about that.

The reason those things don't happen, the reason there's sort of zero defects in that process is because, one, it's very simple. Right? It's absolute, and it's simple. All it is, is just pure routing. There's no specialty information in a sense. There's no office hours. There's nothing in there except hard numbers that say this provider has this number. This office has this number.

I think the key to the sort of routing issue is, and I'll try to be really quick because I've got one more point I want to make. But I think the key to this is then being able to have extensibility. You have to have extensibility. Every process brings its own set of data requirements. Whether it's authentication or anything else, just as an example.

Let's say that you're a medical device manufacturer who wants access to the provider network, so providers are allowed to monitor the implanted devices or change the settings on an implanted device of a patient. Authentication of claims data probably isn't going to cut it for that application. You may want retinal scans, but so every business process is going to have its own set of requirements. I think the only way we can be successful in dealing with all the complexity that we've been talking about is through federated models. Have rigorous routing and very flexible, federated data models in support to allow those provider directories to do what they need to do in support of specific business processes and specific organizations.

David Lansky – Pacific Business Group on Health – President & CEO
Marty, if you're still out there, it's your shot.

Marty LaVenture – Minnesota HHS – Director, Center for Health Informatics
Thank you very much. Again, thank you for the opportunity to talk with you today and present. I apologize I'm not able to be there in person. I was asked to talk a little bit about sort of the public health perspective on directories and the role from the state health department and the broader public health context. I wanted to highlight an example from Minnesota. The whole notion of exchange and the directories to support that population health, public health, and part of the broader e-health vision for some time integrated into our workgroups, our standards, interoperability, the population health models that we've assembled in exchange. Yet we still have, I think, struggled with really identifying the specifications for the directories and best opportunity to supply services that will support public health functions.

In 2007, through about 2010, we participated in the development of an informatics profile as part of our common ground funding funded through the Public Health Informatics Institute and Robert Wood Johnson Foundation to look at the issues of exchange and readiness for exchange. We gather a bit of data that helped us get a better profile across programs … health department. In the case of Minnesota, for example, we identified 20 different information systems that are involved with exchange and, to some degree, all use the directories in different ways, and we grouped them into six areas such as acute disease, maternal and child health, chronic disease programs, injury, vital statistics, and laboratories. All of those have individually identifiable information that's required information that provides services.

With that, we've really looked at the notion of exchange and the factors associated with directories. In brief, what we found was that each of the directories were handled independently, that they imported sources of directories from a variety of different sources from licensing boards, regulatory boards. Although the need for basic routing capability and yellow pages capabilities is similar to what has been expressed by others, the breadth of both the providers and the definition of provider for contact is much broader, and I'll give you a couple of examples of that.

Marty LaVenture – Minnesota HHS – Director, Center for Health Informatics
If you look at the whole notion of maintenance of these, particularly independently, has been very expensive and I would say the ability to keep them accurate and current has been a struggle. An example from our laboratory, for example, is that it's not only just identification routing, there's the notion of follow up, where every year the laboratory needs to follow up on 4,000 presumptively positive specimens. They're identified and the directory information that they need to maintain in order for that follow up—for example, with newborn screening it needs to be urgent. It is essential to have that both current, accurate and complete, but oftentimes ... subunit level at either hospital or facilitator of that activity.

We identified an example of sources of information in several different programs. Let me just give you a few examples of those. ... immunization program, for example, not only is maintaining a directory involving communications at a level of facility, but also looks at subunits within hospitals. It obtains data from licensing programs for day care centers, schools related to the delivery. So when we look at the delivery, the notion of a provider in a service setting expands significantly as well as the traditional clinics and hospitals, and oftentimes the necessary credentialing for the physician itself.

Disease ... for example, in traditional clinics and hospitals are fairly similar. If we look at, as I mentioned, the laboratories, the whole notion of a role-based identification in a setting in addition to individual ... becomes an important activity. For example, dedicate to an infection control practitioner as a dedicated role base source or recipient of the information. Similarly, the hospitals have great granularity within the directory as well as do the local public health systems, where both physicians, hospitals, even on a regional basis become additional components to a directory that are essential for follow up.

So in summary I think there are some general themes that we have identified in our first ... related to the specifications related to the directories. They certainly are a diverse set of directories that are really required to support most public health systems. Right now are maintained independently. They're very costly to develop and maintain. We certainly have the need and the desire to mold the programs to facilitate exchange of public health and unify shared directories wherever possible. So they are also willing to contribute and source to current information in a shared activity. So both kinds of directories, when we look at the sources and the yellow ... pages are important, but we see that granularity is essential for really extending the public health services to the community.

So I'll pause there and am happy to talk further as needed.

David Lansky – Pacific Business Group on Health – President & CEO
We'll continue the public health theme with Robb Chapman.

Robb Chapman – CDC – Dir., Division of Informatics Solutions & Operations
Thank you for giving me the opportunity to present. I'm attempting to represent various CDC programs and health departments, although I would like to offer the caveat that we haven't had the opportunity to go into full inventory of needs across public health. This is based on experience in the informatics and of a lot of public health business and a lot of what this amounts to is sort of educated guesses about where we need to be.

In my written testimony I have described two public health initiatives that are related to this. These are works in progress at various stages. We recognize that these were projects spawned several years ago. They will now have to change in light of the bigger picture, but I wanted to mention that for whatever value they have.

One is the public health directory project, which is essentially a distributed directory service for public health organizations to support interoperability of public health systems. So this supports the routing of messages, identity management, and management of access to controlled information. There is a technical spec that we have for interchange of directory information based on industry standards. We would intend to harmonize this entire initiative with whatever it is that emerges in the bigger picture, but I mention it to make everybody aware of it and I guess to point out that we have some experience with the

joy of attempting to integrate diverse directory initiatives and we'll look forward to relinquishing that responsibility when the larger picture has taken over.

The second initiative I want to mention is the National Physician Registry. This is essentially CDC/Public Health piggybacking on the efforts of the Federation of State Medical Boards and their effort to establish a uniform federated—I hope that's the right term— uniform federated directory of practicing physicians through the state medical boards. Our interest in this was to make this information useable to public health for the one narrow use case of emergency alerting. The state health departments and CDC operate health alert networks. They're pushing out information about emerging public health events. For example, during H1N1 the CDC was pushing out revised guidelines to physicians and to laboratories, sometimes several times a day as new information emerged.

The value of the project that we undertook with FSMB as we see it really relates to the business model in speaking and trying to leverage the existing business processes, the cost benefit of this approach and the sustainability. Essentially the information on individual physicians in this project is collected during the routine licensing and renewal licensing for physicians. So far from our point of view, there's no need to establish a new data collection process. It's just a question of trying to make those data collection processes uniform across the country and making sure that the right information was collected.

We also touched on some policy issues. Claudia Williams had mentioned the whole policy issue. We had to articulate a data use agreement that would make this palatable to the medical boards and to the physician groups', agreement on who the information ultimately belonged to and exactly how it would be used because this is a repurposing of information. That is the type of issue that we're probably going to encounter again no matter how we tackle this.

In terms of future public health use cases there's going to be many of them that were halfway articulated at this point ... investigations, immunization registries or surveillance of notifiable diseases. All of these interactions that we would have with the clinical world boiled down I believe to a couple of more use cases: finding physicians based on their attributes, being able to determine more specific attributes about that physician, being able to route information to them both human readable and system to system kinds of information, and to let them access protected information that public health agencies might have.

I wanted to expand on that a little bit. Besides the yellow pages and the routing functions, I think there's a lot more to the whole identity management aspect of this that many people have touched on. Public health is struggling toward a trust framework for identity management across the organization. This is a very new effort. Beyond that federal government systems have very specific legal requirements as to sort of IT security controls they have to in place. Ideally, we would like to see this directory effort able to support identity management or identity assurance that is compliant with those federal laws such that— I guess the real issue is that the process that we have to put external people through to give them access to our system is rather onerous. We would rather not subject anyone to that if it's possible to avoid it, if the information in the directory is already trustable enough that we can avoid some of that.

In closing, my presumption, I think, our presumption is that we are going for national standards on data and national standards on how these services are presented for consumption by other parties, both for human users and for system users. This is actually very critical to us, so this would include, from our point of view, both the yellow pages and the routing directory aspects of this. That's all I have at this point.

David Lansky – Pacific Business Group on Health – President & CEO
I'm sure there will be more discussion. Thanks, very much, Robb. Karen, thanks for being here.

Karen Trudel – CMS – Deputy Director, Office E-Health Standards & Services
So I suppose I'm here to tell you a story of two databases. I'm going to use our experience with two CMS provider directories to talk about the fact that directories can be very, very different. I'm going to talk about the National Plan and Provider Enumeration System, called NPPES, and the Provider Enrollment Change Ownership System, affectionately known as PECOS. These systems are overlapping in content

but they have very, very different business cases. As was said before, the business case really is critical and I'm going to illustrate that the underlying business case actually leads to fundamental differences in the content, the level of validation and public use or whether there is no public use.

So first we'll talk about NPPES. The purpose of this is to assign NPIs under HIPAA. They have to be used on all administrative transactions. This means that this database is very, very broad because the definition of a provider under HIPAA encompasses everyone. The only people who can't get an NPI are individuals that provide services that aren't really healthcare, like taxi drivers for non-emergency transport. So this is a mile wide. It's also an inch deep. So we have 2.4 active individuals, 776,000 active organizations ... database.

PECOS, on the other hand, is the central repository for Medicare fee-for-service enrolled providers. So this one is the one that we use for the fundamental reasons that were mentioned before: for plan operations, for claims processing, and for program integrity. This is about 1.2 million providers.

In terms of responding to the questions that were posed to the group, I'm going to walk through NPPES first and then PECOS. In terms of validation, there's not a lot of validation in NPPES. Also, ironically when we proposed the content of the system to begin with, we proposed collecting every single practice address for every single provide, and we also proposed linking individuals to the groups in which they practice. Had we done that, the NPPES database would have been much more robust and would have met a lot of the requirements that I've already heard this morning. Unfortunately the public comment was overwhelming that this was much more data than was needed simply to assign an identifier and that we needed to ratchet back the requirements, which we did. So we're dealing with that today.

There was some validation done in the NPPES system, not nearly as much as in plan enrollment files. The maintenance is an issue. As someone mentioned before, the practice locations are very often out of date. There's a regulatory requirement that providers updates but it isn't strong enough and it doesn't happen too much. So not much data content, but there's a lot of access online.

With PECOS, there's a great deal more validation. We actually have a number of contractors that actually go out and feet on the ground check to make sure that a provider is practicing at that location. They check verification information. There's more of a requirement for updating. This tends to be a little bit more effective because you have to maintain the correct information in PECOS to get paid and to get the money to the right place effectively. So that I think is a key for linking providers' maintenance of directories. The set of entities is much more robust. We also collect owners, managers and we do link the group practices to their practitioners, so there's a lot more data content.

I went through the provider motivation for timely updates. I think that many of the databases that we use are more like a yellow pages than a routing directory. Neither one of our systems contains routing information, although we do that at the ... level or the contractor level because we need that for EDI routing. I would point out that routing for administrative purposes is much different than routing for clinical purposes. It includes clearinghouses and any number of other, so to speak, middlemen who are business associates of the provider. That really is going to complicate any development of a routing database that would be useful from a health plan perspective.

So from our perspective directories obviously are crucial to our operations. I definitely agree that there's no one and done provider directory, but I think that some of the functions that entities commonly do in terms of, for instance, validation could be leveraged across databases so that we're not all validating the same address. We're not all validating the same certification or licensing. So that's something to think about.   A federated structure that actually considers all of the various uses I think would be very difficult to accomplish.

David Lansky – Pacific Business Group on Health – President & CEO
Thank you all. That was really stimulating.   I feel like, Claudia that our geekiness is showing, but it's really a very interesting testimony in ways that I think provoke a lot of business questions as well. People can start thinking about their questions and we'll do the ... card thing.

One observation I have, I guess, from the policy committee point of view is that an implication here beyond HIE architecture and support for the policy committee, which as you've all said that is a huge opportunity. There's a huge investment being made by many stakeholders in overlapping or redundant functions and requirements, and you've all alluded to the mix success you have in maintaining accuracy and currency and so on. So from a policy point of view, ... question we need to take back is, is there an opportunity in this harmonization, I think Robb, I wanted to use the word harmonize to bring real efficiencies into the underlying IT infrastructure of the country.

Along those lines, my question, just to start us off, to all of you is whether this idea of federated needs to be thought of in some layered way. I heard you all say the specific business value for each stakeholder at the table elsewhere, it's pretty unique and pretty hard to imagine centralizing or generalizing but there are some core functions of identity and validation and so on, which might be the subset of data and may be functions, which could be imagined to be fairly centralized or common underwriting to support and then a federated model by which added value services are built on top of that, either added content or added functionality. Is there a pathway you see that your own sector would find value in collaborating on a core, but also retain autonomy, so to speak, on the supplemental functions? If so, where's the line between what's core and what's supplemental? I'll just ask anybody to react to that.

Tom Morrison – NaviNet – Chief Strategy Officer
Let me answer that with a—let's start with a bit of a story. I was sitting on an airplane and had a conversation with a guy who worked for the Air Force. The Air Force was having some serious problems with the applications it was using for procurement. Over the course of the conversation basically what I learned was that what the Air Force was doing was the Air Force was trying to use the same system to procure paper clips and aircraft carriers. We sort of laugh, but to some extent that is very, very similar to the situation that we're dealing with in this question and in healthcare. I think the question is—in the Air Force example—what are the things that someone needs to know that run across everything? Who do we cut the check to? What's the address? There's a handful of things that are common between a paper clip and an aircraft carrier but not much more than that.

What tends to happen is if we try to build a system that works like the Air Force's procurement system did, then it's going to take us two days to procure a paper clip and we're going to miss all kinds of things on an aircraft carrier because you can't actually build a data model that can support aircraft carriers and paper clips that actually works for everybody. That's part of the situation here.

What I would suggest is that the most critical thing in this sort of federated model is that there has to be better ways to cross-link all of the provider directories that are in existence that are created by different business processes. So for NaviNet, every time we sign a new plan customer, we have to go through a process where— We have customers where we're literally, this will be a small plan and they'll come back and they'll say they have two million physicians. Well because of all the duplicates that Charles mentioned.

So having ways to facilitate these connections I think is really important. But I would also suggest that in this federated model, when you're tying the model to a business process— Really every business process is going to have some kind of validation that they're going to want to go through. So for example a health plan is not going to pay a claim based on a yellow pages directory of which plans that member supports or which that physician supports. So there has to be a way to have this end-to-end validation at the directory level in support of a specific business process.

David Lansky – Pacific Business Group on Health – President & CEO
Other reactions? Carl?

Carl Dvorak – Epic Systems – EVP
I think Tom really covered it. The only thing I would highlight is things like validation are things we outsource today. While I agree that paper clip/aircraft carrier analogy is appropriate, I think it might be a little extreme. I do think that most of the health plans today outsource many of these functions. There is

probably a decent body of work that could be commonly shared and I would look to CAQH as an example of that.

Tom Morrison – NaviNet – Chief Strategy Officer
I could possibly describe some of the approach we've taken across CDC and health departments that is similar to this. The model that we've hit upon that—it's not that things are going swimmingly, but I think that it's the best model that we've worked with yet—is that we tried to focus on standards for interchange between organizations, between systems. We don't worry whatsoever about what happens inside the walls of the other organization. So what we've found is most useful is if we just keep our focus limited to that but within that domain try to be very rigorous about those standards and adherence to those standards.

David Lansky – Pacific Business Group on Health – President & CEO
We have a number of people, Karen, do you want to comment?

Karen Trudel – CMS – Deputy Director, Office E-Health Standards & Services
Yes, I think one of the things that I'm thinking about from this as an opportunity is how to improve the provider's experience. One of the things that perhaps we could think about and for instance using CAQH and their work as a model, they're trying to eliminate the distinctions that don't have a difference because many of our plan functions have grown up over time. We've never talked about how long should a name be, what should an address look like, how should we go and get information about whether somebody's licensed in a state. So I think there's a huge opportunity here to start to uncover some of those distinctions.

David Lansky – Pacific Business Group on Health – President & CEO
Marty, if you every want to jump into this, please speak up.

Marty LaVenture – Minnesota HHS – Director, Center for Health Informatics
I would just add to that, that certainly I agree with the comments that have been expressed that this is an opportunity for a core set of information. But I think, as was mentioned earlier, in terms of policy decisions is the trust of that rigorousness of which that is updated and it can support timeliness of accurate information in terms of that course of data that has to be any part of that policy as well. So it's the content through it as we have been talking about through the licensing and other opportunities, but it's also making sure it's current. An agreed upon policies for doing that is essential to this process of acceptance of the core.

David Lansky – Pacific Business Group on Health – President & CEO
We have a number of questions and comments here, so I'll just go around. I'll start with Walter.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Thanks again for the testimony. I think what I found very interesting is that in our previous panel the primary or the priority I think was put on the routing directory. That was sort of if we wanted to do one thing first was that. I'm hearing with this panel that one of the biggest opportunities is on the other—I don't know anymore to call it—yellow, white pages or whatever ... pages are. But looking back it's much more of an opportunity for and certainly the type of users that you're giving to this directories and the challenges that you have today as explained by several of you, where everybody is doing credentialing, everybody's creating his own database of providers for whether it's claims or health plan ... or credentialing or whether it's for public health reporting and for knowing who to send data or who to receive data from.

So I think I wanted to test that, is that the biggest value from your perspective the opportunity that we have to standardize and create a provider directory that is more of a yellow or white pages concept that includes an authoritative certification or credentialing of the data that is included in it, or do you see also some priority routing on the routing directories?

Marty LaVenture – Minnesota HHS – Director, Center for Health Informatics

I'll start off by supporting what Tom said, which is data comes from a business process. S what you're hearing us reflect is that our business processes require yellow pages and the routing capability, but what we've generally I think discussed is more on the yellow pages side I would agree. Our routing capabilities are generally the front office, the back office, not the clinical area. So when you say that their incremental values to routing in the front office or back office, not a lot, but the clinical area—tremendous value because largely that's not done, so from a health plan perspective, if there were ways for a disease management initiative to be able to interact more clinically with physicians, absolutely; pharmacy, absolutely. There's a whole world of things that I think would create value from a clinical routing perspective. The admin routing, some value but incremental.

Tom Morrison – NaviNet – Chief Strategy Officer
I think I would suggest that routing still comes first though. I'm in sync with the first panel. While I talked about business processes and the kinds of things that would be maintained in the yellow pages, I think the challenge with the yellow pages as part of this sort of routing and simplification, if you will, is that typically that information requires business rules. Somewhere there are going to be business rules about that provider, whether they're in or whether they're out, and someone has to maintain those. I think much of the yellow pages actually have to occur within the federated directory. So for example if you're leveraging the blue button as a consumer play and aggregating information from multiple providers— I take Adam Bosworth at Keas as an example. Adam builds things that support consumers and consumers buy into that. How does Adam use the provider directory to get that information out? Well, you're not going to have a yellow pages for Adam Bosworth's participating physicians. It's not realistic to think you can go to that level of detail.

So every participant in the system is going to have their own version of a yellow pages that they're going to have to maintain and maintain the business rule that are also likely to impact routing. So I would say in terms of the architecture, those kinds of things, while there clearly are advantages to being able to do things in a common way like CAQH, but I would suggest that even with CAQH, what we're talking about is creating a directory that is specific to a business process. It is a result of a business process. So figuring out how to leverage that and cross-link that is where the value is, but leave most of the yellow pages to the federated directory because that's where the business rules can be maintained.

David Lansky – Pacific Business Group on Health – President & CEO
Marty, do you want to get into this discussion? We'll move onto Robb. Feel free to jump in, Marty.

Robb Chapman – CDC – Dir., Division of Informatics Solutions & Operations
Well, some trepidation for presuming to speak for all of public health. From what I see coming down the chute, the routing directory is probably the most critical thing that we are going to need. We have something of a routing directory capability in our limited world right now.

Here's the issue for me. I don't really understand what value or what level of trust you can have in the routing directory unless the entities in there are linked to an identity of an organization or a person that you can really trust. So I'm having a hard time actually separating those two things. The ability to route messages—these are system-to-system messages or e-mails for that matter—are critical for us, probably more critical than necessarily knowing the specialty of the physician that we're sending it to. But unless I can trust the identity of the person or the entity behind that routing address, I'm in deep trouble, I think.

David Lansky – Pacific Business Group on Health – President & CEO
Marty, if you're there, go ahead.

Marty LaVenture – Minnesota HHS – Director, Center for Health Informatics
It depends a little bit on the granularity of the routing .... I would favor—I think the opportunity to start a ... moving forward that we do need some basis for at least a role-based routing that's going on within various institutions. Even if that has to be within segments, it could look at public health reporting or the whole notion of the analogy some people use in our laboratory ... with the secure facts of HIPAA and the facts in the secure room model that you ought to be able to route not just to that particular facility but into a secure environment.

So if the granularity is such that we can identify subunits in the first stage of that yellow pages, then it would certainly encourage that an early stage move into that quickly with the routing to really make it effective. Otherwise, I think we will lose an opportunity and we'll lose a lot of functionality ... just routing itself and make some assumptions. If we're ... laws in a number of states, we just can't do that. We're going to have to route to particular individuals or roles within those settings in order to assure that a receipt has been obtained by those individuals. Thank you.

David Lansky – Pacific Business Group on Health – President & CEO
Karen, do you have a comment?

Karen Trudel – CMS – Deputy Director, Office E-Health Standards & Services
Yes. I think that routing clearly is key but it's more complex than it might seem on its face. We're talking about yellow pages and I think we're talking about for a wider section of the yellow pages. There needs to be another section of those yellow pages that says here are the other people that are involved in the routing of transactions and it would be Surescripts, for instance, or pharmacy or a clearinghouse for administrative transactions, possibly a registry for reporting clinical quality measures. I mean the numbers and types of interactions are almost limitless and changing practically every day.

David Lansky – Pacific Business Group on Health – President & CEO
Jonah, you're up next.

Jonah Frohlich – HIT at California HHS Agency – Deputy Secretary
Thank you for the excellent testimony and the reminder that I'm, like some of my colleagues, a geek and really getting energized by reading this. A couple of things that in our planning process in California, one of my ... was around kind of creating and identifying the value proposition of what we were trying to build and trying to tease it out of all the conversations we had. I was really heartened by at least some of the testimony.

Marty, you had more expansive, in my view, interpretation, expansive view of the provider directory and expanding it to schools and others who really could find great utility in being able to access some sort of a directory services to get information, like immunizations, etc. It struck me that it might help us try to identify the business proposition.

Then, Tom, I think, the comment that you made about it's not about we can't find the business rationale behind the data, it's the business processes that have the value that the data is needed for, and we really need to— I'm paraphrasing obviously, but the basic idea is we really need to be focusing not on the acquisition of the data but in the business process we're trying to support. I think that's incredibly important for us in this when you make recommendations.

Charles, some of the things you said, I'm very interested in having a health plans as involved in our planning process as possible because they are driving a lot of our business processes today. One of the things you said at the end of your testimony—I just want to kind of get your thought on this, which I thought was incredibly key—is the biggest driver of health plan adoption you can create would be to get the NAAC to allow health plans to purchase provider directories from HIE and allow the acquisition of the function to be an HIE service ... even considered health IT and not on admin costs, basically saying that it could go in the 80% bucket and not in the 15% or 20% bucket of admin costs. I'm assuming by saying that, you're saying that the costs that plans today bear for outsourcing to CAQH or other who manage those directories, credentialing services, that he could eventually delegate that and say, "HIE, you take that. You're now our vendor. We pay you, but it has to go in this line ...." Is that the premise?

Charles Kennedy – WellPoint – VP for Health IT
Pretty much. Given the passage of healthcare reform, every single health plan is wrestling with how do I manage my administrative costs and how do I make that medical loss ratio work? One of the protected areas is health IT, but it's health IT linked to quality. So there's some level of interpretation there. One would argue that provider directories are a foundational capability for multiple things: administrative

things, but also clearly quality things. So if there was some way of getting that worked out, I think you might find many health plans interested in that. If you can't get that administrative ... issue worked out, I think there would be almost no interest.

David Lansky – Pacific Business Group on Health – President & CEO
Paul?

Paul Egerman – Software Entrepreneur
Like everyone else I want to thank you. This is a great presentation and I'm very interested in ... your comments, Tom, about business processes and data, and also about keeping the routing directory simple in terms of how the Internet works. I was also very impressed with your comment, Karen, where you correctly pointed out for many of us it's actually a rooting directory and not a routing directory. So I appreciated that also.

I do have a question about both the routing directory and the yellow pages. First, on the routing directory side, Charles, you did list a number of interesting business processes, but those are really from the standpoint of how a payer operates and interacts with the provider. There's also sort of a flip side about how providers interact with payers. In terms of the value of a routing directory, if payers are listed in this routing directory, wouldn't there be value for the providers? I mean, if I have a small private practice in the Boston area and I have a patient who's covered by Blue Cross of Iowa, who I don't normally communicate with, instead of doing a claims clearinghouse is if I could get information from the routing directory, I could do my eligibility checks and submit claim forms directly to that payer.

Charles Kennedy – WellPoint – VP for Health IT
I wasn't trying to say there was .... I would say it's much less than the clinical side of things, very incremental. We contract with people like Tom's company, Availity, there are many intermediaries out there—clearinghouses, as you mentioned—that we work with. From a utility perspective I'm not sure what the incremental utility is of having the railroad tracks go through a clearinghouse of today versus a health information exchange of tomorrow. We have, for instance, in the ... Association, there is a network, a private network ,so that when you submit eligibility transactions we have our own ways of routing the claim if it's an Iowa patient in New York. So some of those things are already built because the business process demanded it, and I'm just saying the movement to an HIE of that kind of stuff is just much more incremental on the clinical side.

Paul Egerman – Software Entrepreneur
You also mentioned how you purchase materials say from Tom's company and Robb also mentioned something about interchange. Would another way to approach the whole yellow pages issue, where we have this concept that maybe there needs to be local yellow pages, would simply be to establish standards for communicating information. So rather than trying to figure out ... either a nationwide yellow pages or even a statewide, we're going to say we're going to have all these different yellow page concepts, but we're simply going to have standards for how that information can be exchanged in drafts and ... standard and perhaps those standard ... to exchange it in both. What do you think about that, Robb and Charles?

Robb Chapman – CDC – Dir., Division of Informatics Solutions & Operations
I would venture to say that if we had a solid standard for interchange of this information—for presenting it for querying it— I agree that this information is going to best be collected and managed locally or at some more local level than national level. So we're going to end up with some sort of federated model. If we have a rigorous standard that everybody's adhering to in terms of how you query that and how you present it, then the rest follows naturally. You could then build services on top of that that can aggregate data at larger levels or at a national level if that's necessary, if there's a business driver to do that.

From our perspective at federal government, we do have to have on occasion the ability to find information anywhere in the country so we do have a national level interest in finding that information. So assuming that we set up dozens or hundreds of local directories, we have to have some ability to go across them. Obviously that would require a rigorous standard for doing that.

Charles Kennedy – WellPoint – VP for Health IT

I think one of the big, menacing opportunities here is that I think— Back to the analogy of provider directories and the routing associated with that being like URLs and TCP/IP. If we look at the Internet, what the Internet has really demonstrated is when you separate routing from content things just take off because an individual business process can be automated very, very simply. So I think one of the things that I think we have to expand our thinking in is if we're going to talk about leveraging process, then we can leverage process with other process.

Let me give you an example, when you think about administrative transactions being separate from clinical, but one of the things that we're doing with Aetna and ActiveHealth is when an eligibility and benefit process is engaged in—so now ... it's actually not a clearinghouse because we literally are more like a Web where Aetna has its own benefit transaction that we deliver out into our network. They define the screens and what it looks like. It's a process just like going to a separate Website, frankly.

What we do with Aetna is when a patient eligibility and benefit check is done, if there's a care alert or a personal health record for that patient, that process of showing that information is delivered along with the benefit information. So the office user doesn't have to do anything. It's back to the earlier conversation about get it to the office and let them decide what to do with it. It can be a file. It can be uploaded into the EMR. It can be printed on paper. You can do lots of things with it. It's an interactive process, so care alert from Aetna to it's ... into the NaviNet network is a two-way process. Providers can actually say, "This data is old," or, "We have new information and here's a file to upload to your system," or however they want to deal with it. Again, the business process controls the data and the flow. You just have to get the process there and you have lots of flexibility.

So whether it's a notification from CDC that says we've got some preliminary information that suggests this patient has an issue and here are the three pieces of data that we'd like to give you and an interactive process can get delivered to an office to collect that kind of information. It's a fundamentally different way of thinking about this. If you focus on process first, then the data flows with the process. You're not going through the bottleneck of data standards that everyone's implemented and gone through a certification process and on and on. You can actually take a very granular process and deliver it out into the network.

Just to follow up a little bit on that, back in the late '90s, around the turn of the century WellPoint was trying to get its administrative costs down by taking advantage of the Internet and—

M

Which century? The turn of which century, I'm just curious.

Charles Kennedy – WellPoint – VP for Health IT

So we implemented Web-based ways of doing eligibility transactions ... certified, well established standards. What we found is that our phone calls weren't going down even though we saw activity going way up on the Web. When we went to the physician community, what we found, kind of to Tom's point, was that the data content was not standardized. What I mean by that is the physician would come to us and ask is the patient eligible and then get a yes. They'd go to Cigna and they'd get a yes and they're eligible for 20 PT visits. They'd go to another health plan and get, "Yes, they're eligible for 20 PT visits and they've used up 19." The point was the heterogeneity of the data coming through the pipe caused them to need to call in addition. That led to something called CAQH core, which is an attempt to standardize the information coming through the pipe.

I see the same thing happening with HL7. We have some vendors who send us lab day-to-day, clinical results. They put the LOINC code in a certain place in the HL7 message. In the very same message we're getting a full dictation summary that's free-text in the exact same OBX message segment. So standards alone aren't going to get you there, you've got to get either a standardized interpretation of the standard or do what Tom's talking about around separating the data and the—

David Lansky – Pacific Business Group on Health – President & CEO

What do you call it; the data and the presentation?

Charles Kennedy – WellPoint – VP for Health IT
Presentation.

David Lansky – Pacific Business Group on Health – President & CEO
Are there any other comments on this? No. I know our time's going to start getting short. We have about five more questions, so I'll ask you all to try to be focused on the next round. Jim?

James Golden – Minnesota Dept. of Health – Director of Health Policy Division
I'd like to say thanks to Tom. I really do appreciate your comment about data come out of business process. I think failure to remember that is a guarantee of failure actually. The other thing I really appreciated about your written testimony is the table that you put together about some of the different methods of exchange and some of the routing needs associated with that.

One of the things that I think I heard when the provider panel was up there, I heard an awful lot about what you called the provider-to-provider direct. Where they were talking a lot about wanting to push out a message, so they want to somehow send that to somebody where they may or may not know who that person is. They have a lot of concerns about the credentialing.

In Minnesota I always hear that from our provider community. I think they're very cautious about pushing out data. What I hear a lot more about is what you have as your first ... of really pulling the data through an HIO. If you think about you have an individual with a health organization with an exchange health information organization that's then connected in to some larger network, I was wondering if you might talk about what you see as the key differences in the minimum requirements for routing verification and authentication between what you have as the state based HIO model and the provider-to-provider direct model.

Tom Morrison – NaviNet – Chief Strategy Officer
I think it's sort of interesting because you kind of run down the list of all the things that have to happen to make the connection and deliver the content. In many cases the process itself covers many of those. So when I earlier described a scenario of using eligibility and benefit checks, for example, as a result of that eligibility and benefit check there are already several things you know. You know who the patient is because you've got a member ID number. You know that this is an office that's been authorized by the health plan to get information about that individual. You also know that the user that's making the request has had a local HIPAA officer say, "This user is authorized to see this kind of information about this patient."

So I think that that's a bit of a question. It depends a lot on the process and it's always going to be a little bit different. So I think when you think about leveraging these processes, it's how much can you get out of the process or the point that you're at in that process? It's the red carpet example. ... has already done this, why do it again?

So in this scenario I think the exchange has to be in that regard. Naked requests that are coming in—so when it's a machine-to-machine request that's coming in—there are a whole lot of requirements and things that you've got to validate somehow, somewhere, with business rules so that when that provider organization says, "I'm going to release information," you've got lots of things that have to be in that database before you can actually allow that release. I think that's part of the challenge.

Just to underscore, only a quick question for Karen. First, do you cross-check the NPPES with PECOS at all to cross-validate any of that information? It just occurs to me as we're all engaged now in the national level repository—yes another provider directory—is there a way to integrate this if we're going to experiment with the idea of federation and aggregation than can the federal government federate?

Karen Trudel – CMS – Deputy Director, Office E-Health Standards & Services

Interestingly, we are using the PECOS repository to validate and pre-populate data coming in to the national level repository for health IT. So we're trying to leverage all of our existing systems. We view NPPES—well, the NPI—as one of the things that must happen before someone can come to PECOS. So we expect that you have an NPI before you come to us. If you're a Medicare provider we will expect that you have a record in PECOS before you come to the national level repository and attempt to register for the incentive program.

Tom Morrison – NaviNet – Chief Strategy Officer
Again, to the business process piece of this, I think the work that's done on PECOS is because the payment tied to it just as the process as you've been talking about. As we're all struggling again to try and find those things that are going to provide value, it seems to me, listening again, it's the interaction with the clinicians that is different here, it's not the interaction with the administrative people. What are the processes that are going to relieve the most burden, reduce the risk? Where is the value in that clinician interaction? If you're going to focus on business process ... then your data elements and how you exchange, what should we be looking at first?

I think one of the first places to look is payment reform. We're all recognizing that payment reform is the key to all of our policy objectives in a sense and focusing more on outcomes and quality. I think the business processes that emerge around payment reform again are not going to be uniform. It's back to the same issue we've been talking about. Everyone's going to do it a little bit differently. But the point is that if physicians had—

I'll give you an example. In our provider directory, we have e-mail, we have all this stuff but providers don't really do a very good job of keeping it current. They don't have any reason to. Now, if plan checks were sent to providers at their e-mail address, then we'd have 100% compliance in 30 days. So I think to some extent as we start to marry clinical outcome based payments, there's going to be a business process associated with that that's going to produce data and give providers a reason to keep things current so that that payer can get that process down to that provider. So I think payment reform is going to be a great process to leverage to make some of that happen.

Paul Egerman – Software Entrepreneur
The only thing I would add is I guess there is an administrative infrastructure out there. There's not a clinical infrastructure out there. How many other things can you leverage from the administrator to take development costs out of the clinical? I think there are some things: privacy and security potentially. Some of the infrastructure there could be helpful. Some of this provider directory database type stuff.

I think the question, I don't really have the answer, but I think it's some blending of—and you're going to have to go out and look at specific vendors. Some of these vendors, their level of privacy and security requirements won't meet what we need for clinical because it's only to move claim data, but there are some vendors who have built some pretty robust privacy and security solutions. Those might be leveragable [sic]. Then you just need to do an industry ....

David Lansky – Pacific Business Group on Health – President & CEO
Tim?

Tim
I have two quick semi-quantitative questions. I don't know if there's an answer. The first one is since you folks do a lot of transactions today, do you track the accuracy—how often the transactions don't work out? Everybody talks about the need for authoritativeness, accuracy, comprehensiveness. I'm struggling to find any data on what the numbers are. So do you track how often a claims transaction or a benefits transaction or an adjudication doesn't work or if a provider directory has the wrong information and causes things to fail or in Medicaid, similar kinds of things?

The second question was specifically for Tom. I'm still struggling with what it means to be a federated database in your system. I read your testimony. Again, I thank you all for very cogent, written and oral testimony. Let me be specific, real time versus asynchronous updating kind of stuff. So federated: Does

it mean I actually have one place where I look and if it's not there in real time it starts going out and spider crawling other places? Or does it mean that I'm linked and when updates happen, like an ... transaction, eventually things will settle down and get synchronized back? But I think the first question is one I'm really interested in, which is what level of tracking, if any, is there about how often these things break down and what you do about the quality of those things and how it affects acceptance and business performance.

Tom Morrison – NaviNet – Chief Strategy Officer
I think it depends a little bit on the nature of the transaction. So for example in our case, almost everything is told. So there's a user real time saying, "I want this information." In that environment it's 100% because they're a human being who's basically saying this is what I want and then going out real time into the payer systems to get that information. So in that scenario it's an absolute just by the nature of the process. We also had the ability to push, but frankly that's not using nearly as much. Virtually all of our transactions are these real time transactions initiated by the user to accomplish a particular business purpose.

Charles Kennedy – WellPoint – VP for Health IT
With regard to transactions, what we try and do as a health plan is to make sure that every single transaction we get by the time we comes in our door has been scrubbed. So we would hire intermediaries to do that. They'll look at the fields and make sure that all the appropriate fields are there. They'll make sure a man isn't having a baby, something like that.   But some basic scrubbing beyond that, most of it's just field scrubbing. Even if we get a paper claim, we hire somebody on outside to filter that. So by the time we get it the claim is pretty much structured the way it should be. So from our perspective it's a pretty clean data stream.

The intermediaries do a lot of back and forth. I don't know if you've seen those numbers offhand, but they do a lot of rejection, scrubbing, etc. Once it gets in our four walls, that's when the adjudication logic applies. There you're dealing with all kinds of things: Is it a covered benefit? Etc. So those adjudication rates are probably in the 80's, I would say, if I was to say a national number, maybe a little higher but around that.

David Lansky – Pacific Business Group on Health – President & CEO
Any other comments on the reliability throughput questions? Robb, I was going to ask you specifically, ... testimony you said that the numbers of the FSMB records with different contact information, number of e-mail addresses, snail mail address, and so on. When you push out an alert what channels get used and how reliable are they?

Robb Chapman – CDC – Dir., Division of Informatics Solutions & Operations
So the integration of that FSMB data into our alerting system is still in the nascent stages. We're not totally on that yet. Nationally, the standard that we have for alerting is that a public health organization will use whatever means are necessary, if the situation is dire enough that it requires it. We leave that up to each jurisdiction. At the CDC, we support e-mails, phone delivery with text to voice engine, and text messaging and fax. Many of the states can support the same range of capabilities.

David Lansky – Pacific Business Group on Health – President & CEO
... you don't close the loop? You don't know the reliability to those channels to reach the intended recipient, to Tim's question?

Robb Chapman – CDC – Dir., Division of Informatics Solutions & Operations
Directory maintenance is hard. Yes, that information does go out of date. We have mop up processes to clean up addresses or routing information that we discover is wrong. We do have the ability in our particular system to run periodic tests to make sure that addresses are correct. But that essentially is sort of this is a test of the emergency broadcast system, click here to confirm.

David Lansky – Pacific Business Group on Health – President & CEO
Tim, your second question, do you want to ask—?

Tim
I'm not sure, did you answer the second question and I just missed it?

Tom Morrison – NaviNet – Chief Strategy Officer
The second question was about what's the nature of federation. I think to some extent the way that we would probably use an authoritative national database is we would use that in the sense that our source to do the cross-linking. So we would cross-link our federated provider directories that support a particular organization and their particular processes. Then as a value add intermediary, what we would be doing is leveraging that to be able to help make it easier for us to get the connections with other federated networks who participate in that process. So I think ... actually would probably be sort of one step removed or as a reference that would be used consistently, but the actual directory that's using the business process—because it's always going to have some unique characteristics and data needs—would probably sit separate from that.

Tim
... what you actually do today? In other words, if you want to send a transaction over to Charles, you said that you have to wait until Charles' internal directories to match everything up properly. Do you query his directory structures real time or do you have a synchronization process that goes on in the background?

Tom Morrison – NaviNet – Chief Strategy Officer
In almost all of our interactions with health plans, it's all real time. That's why I say we're not a clearinghouse. We don't take batch files and hold them in our network. With very few exceptions and ... limitations on the part of the plan systems, everything is real time. So we have our internal model that makes the linkages. Then that linkage is directly into the health plan systems in support of that particular business process. I sound like a broken record, but that's what we do.

David Lansky – Pacific Business Group on Health – President & CEO
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I found this a really sobering conversation in the standpoint of I think, Tom, you said you have an extremely acute interest in provider directory ... central to your business. It's central in a way that requires it to be very tailored to what you're doing business-wise. That's very compelling and very encouraging at a sort of global level of our work, but I think it points to the essential challenge for a public body. I think governments often try to create public utilities that are broad use and uses and have a much harder time looking in a very focused way at what problem this is going to solve today.

So I think what I'm taking away from this conversation is the need to be extremely disciplined and thoughtful. If folks are going to be ... yellow pages, can we clearly define one, two, or three immediate business interests? Are the parties that need to be part of that at the table and committed to doing that? Because it feels like in the absence of that, in a sort of ..., we're doing this for multiple purposes, we have a lot of examples of public databases and public efforts and public utilities that just are languished because nobody was using it or nobody cared or nobody updated.

Certainly what we started with, which was directory exchange for care summaries, seems like a—I mean, we'll be debating this and discussing but it seems like a robust starting point. It feels like some of the health reform attribution quality measurement might be another but requires entity level information to .... People have also talked about just the need to verify that Tim Andrews is the Tim Andrews I think Tim Andrews is. Then I can go somewhere else and decide how I route to him. So I think it's just to our group to try to synthesize this into something that might help us move forward in a really concrete and leveraged way, recognizing that if these are going to be publically ... things, we have a lot of failures in the past and we have to figure out how not to repeat those.

Tom Morrison – NaviNet – Chief Strategy Officer

One of the things I think we have to think about is there never was a meeting for one of the use cases for the Internet and where do we get the representatives from social networking and photo sites and news. That was very much government created and supported and backed and enabled. Again I think part of the key here is we all recognize the complexity of healthcare. We have all been I think a bit naïve. We all believe in IT, but it's a little bit like artificial intelligence. It's really easy to conceive how great it's going to be when we have it, but the reality is it's just a lot harder than we thought.

So I think part of the message I think is this is clearly a less is more. It's going to be very difficult to develop these authoritative routing tables and directory for providers and entities. If we can get that right, then the private sector and individual organizations—if there's a way for them to tap into it—can do all kinds of things that we want to accomplish. If we try to do it by deciding what the use case is, building the data standards to support it, we're into a three, four, five year process and a very inflexible process.

So I think we have an enormous opportunity right now to model our thinking around what happened on Web. Obviously, there's some healthcare specific components and privacy and security and other issues that have to be dealt with. But if we can deal with those fundamental infrastructure requirements, we can sort of build the interstate highway for healthcare without deciding what kind of ... are going to run across it.

Robb Chapman – CDC – Dir., Division of Informatics Solutions & Operations
Just very briefly, directory service is one of the fundamental building blocks of any IT infrastructure. So, I very much echo what Tom Morrison just said. In our experience when you build—in our case an enterprise service, a general service like a directory service—stuff starts to happen that you couldn't even have foreseen. So it's impossible to know what all the ultimate use cases are going to be and what all the benefits are going to be. But it's not rocket science to think that directory services are going to enable a lot of things.

Tom Morrison – NaviNet – Chief Strategy Officer
The only thing—maybe I'm going to temper the enthusiasm a little bit with how regulated this industry is. So a lot of the Internet was ... because in many circumstances, it wasn't as tightly regulated as what we face in healthcare. That can be a problem. That can also be a source of support. I would encourage us to look at URAC, the JCAHO, the NCQA, their regulations around provider data collection. If you don't meet those with whatever you do, I think we're dead before we start. But if you at least get to that minimal level of entry requirement then perhaps we can get to the more innovative and have these flowers bloom.

David Lansky – Pacific Business Group on Health – President & CEO
I think Carl ... promise to be quick. Karen, do you have an estimated percentage of what coverage your provider databases represent from a countrywide perspective? What percent of the physicians in the whole country are already in those ... databases?

Karen Trudel – CMS – Deputy Director, Office E-Health Standards & Services
I do with respect to PECOS because that is Medicare fee-for-service only. For purposes of the NPPES database, I would say we're close to 100% on at least organizations like physicians and laboratories. Even the individual practitioners that don't submit electronic claims for Medicare purposes must have an NPI anyway if they order or refer so that expands their network somewhat. So really unless someone is really is not submitting any administrative transactions at all with any health plan whatsoever they probably have an NPI.

David Lansky – Pacific Business Group on Health – President & CEO
Jonah, I guess I'll give the ball back to you for closing and lunch.

Jonah Frohlich – HIT at California HHS Agency – Deputy Secretary
Thank you very much for the excellent testimonies and the responses. I echo what I think I heard towards the end, something that I heard when ..., which is the birthplace of the Internet, which was they basically had a mantra which was rough consensus and working .... That's how they basically

established the foundation for the Internet. There was not a lot of regulation happening there at all because there was nothing to regulate yet, and there still isn't a whole lot of regulation around the Internet. But it works extremely well because there are some basic set of principles and rules that everybody has to follow, so perhaps we need to think about some rough consensus and working ... with respect to how we set up these kinds of ... structures. We also have to keep clearly in sight what the business needs are that we're trying to address so that we don't design something that doesn't have any utility.

So with that happy note why don't we adjourn for lunch? I believe we're scheduled to come back at 1:30, where we're going to have state panel and we'll get right into it. Thank you.

 (Lunch break.)

Claudia Williams – ONC – Acting Director, Office State & Community Programs
I think we are ready to resume, if everybody could please take their seats. I'll turn it over to Jonah Frohlich.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
I'm going to introduce the afternoon sessions and then turn it to Jonah. I think he's going to facilitate the first panel. So we heard this morning, business needs and had a very rich discussion about business requirement from the perspective. I think this afternoon we have two panels that will be addressing probably some of the same issues of course that we heard this morning, but probably some new issues.

We'll start with a panel that will focus on the state and regional experiences and expectations on provider directories. We have a good set of representatives from various parts of the country on that. Then the final panel will be turning to the technical requirements of provider directories and here and listen to testimony on technical perspectives on some of these elements that we've been discussing: yellow pages and routing directories and other things.

For the first panel Jonah is going to be moderating, so I'm going to turn it to Jonah for his introduction of our speakers and facilitating this.

Jonah Frohlich – HIT at California HHS Agency – Deputy Secretary
We have four distinguished guests. George, can you hear us? Are you on the line?

George Oestreich – Missouri Medicaid – Deputy Division Dir., Clinical Services
Yes, Jonah, I am. Thank you.

Jonah Frohlich – HIT at California HHS Agency – Deputy Secretary
George, please forgive me, the pronunciation of your last name?

George Oestreich – Missouri Medicaid – Deputy Division Dir., Clinical Services
A-strike, just like in baseball.

Jonah Frohlich – HIT at California HHS Agency – Deputy Secretary
Excellent, I would not have gotten that. We have four panelists today. I'm going to introduce them in order that we'll ask them to give their testimony. We're starting with Hunt Blair. He is active in Vermont health and Medicaid policy since 1992. He joined the Douglas administration back in January of 2009. You're the director of the Division of Healthcare Reform and an HIT coordinator. I'm very happy to have Hunt with us.

Carladenise Edwards is known very well to me. She's the President and CEO of Cal eConnect. Cal eConnect is California's health information exchange governance entity and has been on the job about 90 days—110 days. I'm counting every day that I'm actually able to breathe.

The third member of our panel is Greg DeBor. Greg's a partner at CSC Healthcare group and has a number of projects. Major clients include NEHEN, the New England Healthcare Exchange Network. We're going to hear about that. We read about some of the excellent work done there in the testimony that was submitted by Greg.

Then finally we have George Oestreich, who's the Deputy Division Director of Clinical Services from Missouri, the HealthNet Division, the Medicaid division in the state of Missouri. He's also and Adjunct Clinical Assistant Professor at the University of Missouri-Kansas City.

I'm going to start and ask Hunt to give us about five minutes of discussion and we'll go from there.

Hunt Blair – OVHA – Deputy Director
Good afternoon, everybody and thank you very much for the opportunity. I have to say that it's extremely gratifying to have this esteemed body and the federal government applying its lens to the question of provider directories. Back in 2004 and 2005, I actually did build a provider directory for Vermont. It was accurate the day it was finished. After that I realized that somebody else needed to take on the task of keeping it up to date, my new role. I'm still trying to see if that will happen and I think you'll see that that influences my testimony.

The other thing that I'd say is that we in Vermont—although we're a tiny, little state, population the size of a small county—we think big. So I will plead guilty in advance to the boiling the ocean problem. We're trying to ... the entire states healthcare system in one big, happy cake, so my apologies for that. I will err on the side of expansiveness versus parsimony. But I do think that even though every state and state environment are clearly different, we could develop a policy framework—that is my hope—that could bridge the reality within that existing landscape and also bridge some of the things that we heard about this morning. So, in Vermont, there's ... optimistic.

My big message of today is that I really think that this question of yellow pages versus routing directory/rooting directory is a follow-up to things that I think have been ..., although I would say that part of what I think we started teasing out this morning is that yellow pages is not quite the right metaphor for what we're talking about of the larger sort of source of authoritative validated data.

Even in the state of Vermont we've had really a seriously difficult time even with our small population and small number of providers really keeping track in a consistent way across parts of state governments and private industry. Who's who, where they are, and I think that that's a role that we have come to decide can and should be played in state government. I think that part of my reaction to this morning's testimony just reinforces that, that there is a role that states can play. I think it will be different in each state, but that there's potentially a core data set and standards that could apply to all of us. It also probably apply to other entities that are in the directory business. If we built essentially a federation of federated networks and ... network, that that sort of this ... environment I think is where we want to go.

Two quick final points: Those who are on the committee have heard me harp on it a couple of times, but I just want to say it publicly. I think that part of where we need to go with is make a recommendation to the Standards Committee that in order to tease out the right standards, we need to take a look at the ... or the hierarchical structure of the objects in directories. Because I think if we don't go ahead and try to at least do a provisional—and ... the point that was made this morning— sort of at least look out over the horizon. It doesn't mean that everything has to be filled in, but we could an extensible structure that could accommodate further developments over time. So I think that that is a really important point.

The other thing is I think I was actually asked to talk about the regional work that we're doing through NESCSO (the New England States Consortium Systems Organization), which is all of the state's Medicaid agencies and human service agencies and more recently also includes the colleagues of New York. A discussion that started last January when all the HIEs and HIT coordinators and state folks got together and we said, "Boy, wouldn't it be smart if we did this across the region?" We've had a series of conversations and Tim Andrews has been part of those. Here's where I think we are actually. I think it is really admirable to do that at the state level, but I think that we will just end up duplicating work that the

Southeastern group is doing that really this at the policy and structure level something that should be done at the national level and then again, built in state-by-state and other entity by other entity

Jonah Frohlich – HIT at California HHS Agency – Deputy Secretary
Carladenise?

Carladenise Edwards - Cal eConnect
Good afternoon and thank you for the opportunity to present oral and written testimony related to the establishment of provider directories at the state and regional level. My written remarks did not make it into your packet for I was typing them at 3:00 this morning, so you will get them shortly.

As a representative of the work that's being done in California to enable the meaningful use of electronic health information among providers who are speaking and participate in the electronic health records incentive program, I'm really appreciative of the opportunity to share our perspective from Cal eConnect Inc., which is the state designated entity for health information exchange in California, as Jonah said. I'd like to share with you just a little bit of our organizational history. I think it's important to get some context. The previous speakers talked about business purpose, business processes and the value or validity of ensuring that you're providing a service. So as opposed to talking specifically about the provider directory service, I thought I'd just give you at least 30 seconds of Cal eConnect to help establish why this is important.

Cal eConnect is a not-for-profit benefit corporation and as I said was designated by California to help enable the meaningful use of electronic health information exchange particularly in California. We're a very young organization. We've put most of our effort over the last 90 days into developing a solid organizational structure that will support the efficient and successful deployment of services that will enable the sharing of electronic health information, particularly among disparate providers who are spread across with a very large, complex and diverse state.

So again what we're looking to do—and that's the key stakeholders across the state of California, the staff of Cal eConnect Inc., as well as our 22 board members, of which Jonah and David Lansky serve—is to come up with policies, procedures, as well as technical services that will support the appropriate and private and secure use of—and I intentionally keep saying—electronic health information. We have processes by which we have been exchanging and sharing data in a paper format. We also have processes by which we've been sharing them electronically.

Unfortunately from the end users' perspective those processes are not efficient or sufficient to meet the meaningful use criteria, which are driving us to improved health outcomes, improved healthcare delivery, and more efficient healthcare systems. I represent an end user as somebody who actually uses the healthcare system. I'm a mom, so I have two kids. I toted both of them to the doctor last week thinking they had strep throat. I'm also a daughter of aging parents and my father calls me every time he goes to the doctor and I have to hear what the doctor is telling him because he doesn't think he can remember. So at the end of the day what we're trying to achieve is creating processes using the technology that we use in every other aspect of our lives to make managing our healthcare better so that we can have better outcomes, better delivery, and more information when and where we need it.

So the foundation of Cal eConnect is to figure out a way in which we can enable that within a public/private partnership that draws upon the infrastructure that has already been built in other industries. So Cal eConnect is helping to establish some core principles around health information exchange, policies around health information exchange, as well as a technical infrastructure that will enable that. We've already adopted guiding principles for exchange. I would encourage the policy committee maybe to look at some guiding principles around provider directories. We've determined that established in a provider directory will be our first initiative because it lays the foundation for that secure exchange of information.

So based on the conversation we heard this morning there was some question or some doubt about whether or not that was simply the routing, simply the yellow pages, or a combination of the two. I agree

with my esteemed colleague, Mr. Blair, that it is a combination of the two, that both of them are required. I think I would disagree with Mr. Blair in terms of how we do that. I actually think it needs to come from the bottom up instead of the top down. There are provider registries that are in existence that are functioning and meeting the business purposes and the business needs of the individuals or entities that establish them. Those include healthcare systems, healthcare payers, health information exchange organizations that have already been in existence prior to the work of HITECH as well as healthcare reform.

So I would argue that we need to leverage those existing infrastructures in routing, leverage the existing infrastructure, which I'm sure you'll hear about from the vendors, through the health information exchange and EMR certified technologies that exist. Then build upon that to create interfaces between those gateways but that still enable those individual entities to manage how they share that data within and among themselves. Because again their use of that data meets their business need and I would not want to trump that.

The risk of trumping the business need of the respective entities—particularly those who will then bear the responsibility of providing updated information—will result in that data not being accurate or useful because if there's no use for it people won't have a need to update it. If there's no incentive, and we use the word business but it's really financial, if there's no financial incentive to keep the information updated people will not keep the information updated. So to the extent that we can build upon what's already in existence, I think we'll have a better product at the outset.

Then finally, I know I'm over my time, I just thought of this one little story or anecdote that I heard from an engineer at a meeting I went to last week. The engineer talked about how he felt he was really out of place in the healthcare industry when he realized there was this really good analogy in terms of the work that we were doing. He talked about building tools. He said the most durable tools are created through the process of forging as opposed to the process of casting. When you forge a tool like a wrench or a hammer, it takes a very long time. It takes a lot of effort, a lot of heat, a lot of sweat, a lot of equity.

But at the end of the day you'll have a hammer or a wrench that will go beyond even your children and your children's lives. You cast a wrench or a hammer, right—like the ones that we buy at a store, like a dollar store or Wal-Mart, right, I know I've done it—you hit one nail and the hammer falls apart. So what we're doing I think is a better use of our energy and exercise of forging a system that comes from a lot of sweat equity—and Claudia spoke to it in her comments after the payer panel—is going to be a much better use of our energy than simply trying to put things together that might not necessarily fit together in the first place.

Jonah Frohlich – HIT at California HHS Agency – Deputy Secretary
Go to Greg.

Greg DeBor – New England Health Exchange Network- CSC Healthcare, Partner
Thank you to the committee, the workgroup and the taskforce for the opportunity to share with you the lessons learned from our directory implementation work in NEHEN. I'm going to give a little bit of NEHEN background, talk about a little bit of our architecture, talk about how we got to the directory structure that we are using and then try to tie that into the discussion around routing versus yellow pages and what needs to be done there.

First of all, a little bit of background, Dan Nigrin gave you some this morning on NEHEN. NEHEN has been around for 12 years. It started as an administrative exchange handling the HIPPA transactions, so anyone who's familiar with NEHEN might think of us as an administrative exchange. Then last year this other RHIO organization called MaSHARE merged into NEHEN and NEHEN reconstituted itself as a not-for-profit corporation with a new name but with the same acronym so that we could keep the logo. So they're now the New England Healthcare Exchange Network.

In the course of its history, CSC had been managing both the NEHEN and the MaSHARE pieces. That led us to one of the first NHIN prototypes with Connecting for Health, Markle Foundation and then we also

built the Rx gateway, e-Prescribing link out to Surescripts under a CMS AHRQ grant. So the product lines are administrative, e-Prescribing and clinical. It's a gateway to gateway model and a model that Arien explained this morning for NHIN with a hosted version of it that allows smaller providers who aren't capable of maintaining their own gateway to also participate and we maintain that. That's all in the written testimony, more background on that.

So how did we get to having a directory? Which by the way, we call a participant/provider directory, which is I think important, and others have made this point because we try to be all-inclusive to the organizations who will participate in health information exchange. First of all, when we were an administrative exchange, we were doing directed exchange and even with e-Prescribing to a very small number of nodes and we can managed that because it was directed and you only have so many payers and so many clearinghouses and aggregators, including Surescripts. So we administered that in a central way through our technical staff. When we tried to get into clinical exchange—moving summaries around, moving public health information, moving lab results—you realized that the complexity and the number of participant's increases by order of magnitude and you really have to move to a way where you can have a distributed or self-maintained director.

What we did at that point was design a directory that could be managed in a federated way. A metaphor for clinical exchange has been the mailroom. I think Dan alluded to this this morning too. Our job has been to get things in our earlier iterations to the doorstep. Then we don't know what people do inside the house, but what we realized with clinical exchange was for this to have value for some people they wanted at least the mail slots in the mailroom so that they could have somebody come to a place and pick it out and it would be directed. Some people actually wanted to have it moved to their desk.

On the outbound, using this metaphor again, you needed a white pages, we called it, but I guess I could see the yellow pages analogy too, to look up this address that you wanted to send to. We needed to build that directory. It needed to be an organizational directory as well as individual provider directory. So we tried to separate as much as we could and decuple the routing from the informational piece, but you find that what you at least need on even the routing is to look up function, the search function.

I really think this exercise of routing versus yellow pages is a scoping exercise or the whole provider directory exercise as a scoping exercise. First, do you want to talk about only providers or do you want to talk about all the participants in health information exchange? Then secondly, when you're thinking about scoping what you need for routing you need the ability to find those addresses so there's a little bit of yellow pages in routing too. That's the approach we take, which is to say, how little information can we have for routing but also how can we have some flexibility and some optionality around what people want for routing.

So what we landed on is having a central community directory that after we set up somebody with credentials the participating organizations can maintain their entries in that community directory. They can simply say deliver all my transactions, all my summaries, whatever, to this gateway, or they can say I want to also use this directory to set preferences, tell you whether I want to receive these things via e-mail, directly into an EHR, fax, and I want to send it within my organization to these different mail boxes, or they can use that option only. They have to make an entry to get into the gateway and go further than that. The richer entry that they make into the directory means that the searching for their entries becomes richer too. That's really where the yellow pages and routing start to overlap.

I would say that what I would recommend to the committee and the taskforce to consider is the scoping around routing and the standards required for routing to make gateways or different exchange partners be able to find each other and communicate with each other in a standard fashion. But then think of the yellow pages aspects of value add above and beyond that and try to decouple those two. So let me end there and obviously there's the opportunity for questions later.

Jonah Frohlich – HIT at California HHS Agency – Deputy Secretary
George, if you can hear us, you're up.

George Oestreich – Missouri Medicaid – Deputy Division Dir., Clinical Services

Thanks for the opportunity to participate on the phone today. I apologize that I wasn't able to be there. I had been able to listen to some of the earlier panels and find this very meaningful work for all of us. I'm a little amazed at the complexity but awed by the level of talent that's been available before. What I'd like to do today in the brief time I have is to talk about our case as a use case and then to allude to what I think is a critical part of this whole project is the sustainability, both early sustainability and long term sustainability. MO HealthNet, the state's single state agency for the administration of Medicaid has been involved in working with a combination of administrative data and clinical data for several years now.

One of the issues that we have been able to successfully integrate is the fact that we can pull administrative independent, administrative claim data and use the clinical information there as a surrogate to do some of our work directly in pre-certification risk management. So we very much are interested in expanding that sphere beyond our current scope and that's why we've also been very interested in the HITECH opportunity. I have a unique opportunity to look at Missouri from a perspective of Medicaid as well as being project manager for the HITECH program, and also being involved in our MMIS reengineering. The MMIS reengineering started about three years ago and will culminate next spring in a system that will allow us to be originally modified capable and being able to use our system oriented architecture ... service to reach out to now what we must find other partners that we can gather that more discrete clinical information for a higher level of integration in our system.

So we've been in the process of that as well as in the process of overlaying with our MMIS system, our clinical rules engine that parrots the administrative rules engine and combined together has given us the opportunity to present clinical data to our participant base and to a lesser degree to our participant base so that we may share what we believe to be some of the necessary parts of case management care coordination that are important to it.

What then that has led us to with our most recent iteration is to realize that through the introduction of NLR that we have and have recognized that we have a very weak link in the whole prospect. That is our provider enrollment information that we have known to be a weak link but realize even more now how weak that particular link is. So it seems that the ideal use case for us would be to have a statewide provider registry that we could use within our state agencies but also to share that with our partners in our managed care organization world and our private sector partners too, all of which overlap to a fairly great degree within our world of ....

So as we started discussing that opportunity, we met with the other portions of our state world—our mental health agency, our health and senior services agency, and our overall HI, health information and IT infrastructure group—and have found that there's a great deal of support for a prospect of using a centralized provider registry that would have core components. Then use that in a federated model to build out value added or other service oriented tasks from that particular prospect.

That's leading me to the sustainability. I think that gives us, with the encouragement of ONC and encouragement of CMS, the opportunity to build a better prototype for that particular mission by using the combined funding of all of our resources. But also it gives us the longer term sustainability opportunity by using those agencies that I just alluded to—we can certainly drill down to their individual needs, if you like—but to support the long term sustainability of that provider registry as well as to share a core of that and have more modest sustainability revenue stream from the other partners that I alluded to.

I think that's the message that I would have for today. Certainly the technology will support that. The ideal situation would be if that provider registry were a national provider registry if we could get our arms around the core parts that would be required, the core data elements that would be required, to appear within that. I think at this case as we've listened from many other presenters that we're a ways from that and we have a lot of ... in the individual provider registries that are already in place. They need to build upon that before we make that comprehensive jump to the broader registry.

Thank you again for the opportunity. If I'm watching the time correctly I'm within limit. I'd be glad to answer any drill down questions or general questions on the concepts that I've expressed to you.

Jonah Frohlich – HIT at California HHS Agency – Deputy Secretary
We're going to do questions from the panel, if you can raise your tag so that we can start taking them in order. I'll start, if I may.

When reading a testimony—it's not just of this panel but of others—part of the theme or one of the questions is—and you can guess where we're trying to go with this—that there seems to be an opportunity to work with other states, other private partners, the federal government, ONC, CMS, CDC, etc., to not build 56 provider registries at a minimum, if we're not talking about hundreds because there are already dozens out there. What I'd like to try to understand from the panel is what do you think is the most critical thing that—and I'm going to put our federal colleagues on the spot—that ONC and CMS can do to really help facilitate more of a I don't want to say a singular directory but something akin to a national directory that is highly federated in nature? What is the most important thing that they can do today to help us move in that direction? So that as ... Carladenise are making plans with our HIE funds to build directories we can actually start to have some kind of a common framework that would allow us to one day federate into something that is pretty much universal authoritative across the country.

Hunt Blair – OVHA – Deputy Director
Actually I think Carladenise and I are not in opposition on this point because I think that part of what we have to do is simultaneously do bottom up and top down, that's sort of the nature of the federated piece .... I think that the leading thing that can come from the federal government level of the federation ... network is to really, most importantly actually, build on the current system to leverage the things that are out there and figure out how we forge these things together.

I think that as I keep coming back to this, one of the first things that I learned when I was building my little database in Vermont was a directory is really composed of different indexes. So part of what we're talking about as we pull these pieces apart is we have potentially lots of different indices that feed directories and keep nesting that up. I think that we in Vermont struggled with the whole, well, ... our state exchange. We've got this state enterprise and we're also re-doing our own MMIS and moving to a service ... architecture at the same time. So we just need one EMPI for patients, one EMPI for providers. What we came to realize is the "E" in EMPI, the enterprise—every enterprise is going to need its own for its own systems and purposes. So we're always going to have to keep dealing with that problem, but I still think there's a strong reason as we've been hearing today, to figure out where there are links across the enterprise.

Carladenise Edwards – Cal eConnect – President and CEO
I agree. In thinking through how the federal government can support the efforts at the state level I had a couple, I think kind of must-haves that are probably more for discussion than mandates because there are still some nuances to each one of these points.

One of the things that I think would be helpful in helping us to enable the use of provider directories and remembering what the purpose of those directories are, enabling health information exchange in an aggregated way that allows us to use the data meaningfully, is incorporating participation or compliance with the maintenance requirements, whether it's the federal system, the state system or local system and provider rankings related to quality and even in their evaluation of achievement of the meaningful use criteria. Somehow we can tie their compliance and participation in a certified or accredited registry to one of those two things we may increase or improve compliance as well as data input.

The other thing that would be helpful is adopting rules or regulations at the federal and the state level that authorize the certified directories that exist. So for example, Cal eConnect creates the directory and that we become credentialed or certified that we then have access to existing databases at the federal and state level to ensure their synchronicity across those existing data sources, such as ..., Medicaid, or Medicare. So to the extent that there's synchronicity across the system, we'll ensure that there is some level of uniformity through the establishment of standards and certification processes for those standards and robustness, whether it's individual exchange that was built at the state level, a federal exchange or a provider directory. I keep wanting to say exchange I think is intuitive because the directory is a vehicle by

which we enable exchange. So the end goal isn't the establishment of a provider directory for a provider directory sake, the end goal is a vehicle that enables the exchange of patients' health information. So I apologize if I keep using them interchangeably, I'm all the way at the end and we're supposed to be talking about the beginning.

Then the other one of the requirements or things that I think would facilitate this is requiring, I don't know if requiring is the right word, but participation somehow requiring the providers to participate in whatever has been considered the certified or credentialed provider directory. So if Medicare has a provider directory and they have several, we heard about that in the previous panels, and they're not getting compliance and adherence to participation I don't know why anybody thinks it would be compliant with mine. I'm just a little non-profit in California. So there has to be some care in ... that's associated with the business processes and the outcome that the provider wants to achieve that then forces them to participate so that we can have the robust data necessary for this to be a meaningful exercise.

My point is, there is a role for the federal government to participate. I'm not sure it's building in a provider directory in and of itself or enabling the robustness, the completeness, and the accuracy of the directories that exist and those that will be built as interfaces between existing directories in the federated model that I think we've all talked about in uniformity.

Greg DeBor – New England Health Exchange Network- CSC Healthcare, Partner
First, I didn't explain where NEHEN is going next. NEHEN really is looking at sources of national data because we don't think it's meaningful to build a local directory. While we're very interested in doing a regional directory—and in fact we're talking to NESCO and four of the states individually—we would still build a national directory even at the regional level because there are national data sources. So that's one point to make.

Secondly, I want to throw back a question to the taskforce or the workgroup or the committee or whoever can answer this. Have you clearly scoped whether we're talking about a provider directory or a participant directory? There's been some discussion about that. Do we have—?

M
Anybody in ... organization ...?

Greg DeBor – New England Health Exchange Network- CSC Healthcare, Partner
Yes, exactly, including public health agency payers, etc.

Paul Egerman – Software Entrepreneur
We have had this discussion at some length. I think we settled on the HIPAA definition of provider which is more inclusive of labs, of pharmacies, payers, etc. To what extent it's even broader than that, I think we tried to constrain it ....

Greg DeBor – New England Health Exchange Network- CSC Healthcare, Partner
I think a broad definition is good. But then that may mean that you can defer some of the more narrow provider clinician affiliation and other clinician attributes for a later state and talk about the routing among participants. There was another point I wanted to make but maybe I'll think about it later.

Jonah Frohlich – HIT at California HHS Agency – Deputy Secretary
George, any thoughts?

George Oestreich – Missouri Medicaid – Deputy Division Dir., Clinical Services
Yes, I think along the lines of my other colleagues, I think the most important part is that the federal government could do is to coordinate the opportunity for aggregating the data. The data elements on the NLR should match the data elements that we're looking at from the provider registry and should be the core elements that we can use in doing outreach to our providers.

One of the interested groups in our stakeholder discussion to date have been the .... Their interests are clearly is to have accurate, authoritative information. They would be a control for all of those providers basically within the state. But their secondary interest is in the disclosure of data and how they would be able to control the more discrete data within their purview that they're not able to disclose.

So I think going back to the development of standards for that core data elements for the project would be important, but to require as a single point of entry would be a huge step up for all of us and would prevent us from getting a major pushback from the providers. Just as we're serving today, there's like how many more of these are to come and we get a diminution of participation as the volume goes forward. So having a single point of entry at the federal level and the state level for the updating and currency of the data would be important.

Jonah Frohlich – HIT at California HHS Agency – Deputy Secretary
I have five questions: Micky, Walter, Dave, Carl ... and Claudia, I tried to do that in order when I saw them. If any of the members of the Task Force are on the phone, please let me know if you have a question and we'll get you in the queue. Micky?

Micky Tripathi - Massachusetts eHealth Collaborative - President & CEO
It's somewhat related, Jonah, to your question, except I wanted to sharpen it to the administrative side and I guess it applies less to you, Greg, but certainly to Hunt, Carladenise and George, which is what's your sense of the complexity of being able to pool funds across programs to get this done? I've been a participant in NESCO and one of the things that seems to me to be lurking there in the background is just as we think about pooling just ONC funds from Vermont, Maine, New Hampshire—so even if you're talking about the same program. Let's say just the HIE funds across states—it's not really clear to me exactly how that works and what the challenges are there. Then we talk about across programs within ONC like ... that seems to be a challenge. Now we're talking about Medicaid and then maybe public health, that seems like another challenge. I just wanted to get your perspective on that and how big a challenge do you think that is?

Greg DeBor – CSC Healthcare Group – Partner
Well, I think, Micky, you put your finger on a really important challenge and part of why—I mean I'm not giving up on the NESCO effort to work regionally, but I think that it's incredibly challenging. We now have an ... of three of our six states after ten months and plenty ... thought about it. I think that this is actually kind of, to Jonah's point, an area where the Feds can help by explicitly saying—and actually they have said to NESCO explicitly—we will stand by you doing something collaboratively. It's more within the state to state that that gets hard. We see this with the Mapper effort that HP MMIS states were working on a interface to the NLR in the states. A couple of the states' own procurement process. It got in the way of them participating in that, even though CMS is encouraging it.

I actually, in preparation for this, surveyed the various people within state government—the public health, etc.—to say, okay, so will we all get together and work on this. There was actually a surprising level of openness to it. In fact, the public health commissioner said she couldn't really see a downside to it. They don't have the resources ... pooling the resources. I think it's mostly a matter of leadership and will to drive it through, not actual administrative ....

George Oestreich – Missouri Medicaid – Deputy Division Dir., Clinical Services
I would largely concur with that. I think as we're looking within our own state, there's a lot of support. All of the players have been at the table fortunately in the ONC projects. There's a lot of support in the Medicaid arena as well. In both of those cases they are within the same secretarial unit within the state government, which will certainly help. Procurement is a huge issue, so I think the leadership to get it beyond a state by state basis is going to require a great deal of effort from the federal government to help sort of ease those processes.   Within each state I think the largest issue at this point is the procurement process is not an issue is the opportunity of the different agencies to work together.

Carladenise Edwards – Cal eConnect – President and CEO

I echo and I'm thrilled to hear my colleagues comment about the procurement processes in government being an inhibitor, a barrier, to the collaboration that you're talking about. One of the things that immensely attracted me from one state to California was the fact that California had the foresight to create a not-for-profit entity to help manage these dollars. There's a lot of will, strong desire and even some traction around how we can then leverage the state HIE funds, the regional extensions center funds, the Beacon funds, as well as the ... state Medicaid HIT plan opportunity so that we can create the infrastructure for provider directory service as well as other translation and interface services under this one umbrella of Cal eConnect. So to the extent that there's a partnership opportunity in your state that takes the difficulty or complexities of state procurement out of the picture, I think that will help.

One of the things that ONC can do, although I think they've done a lot, and the format and the framework of creating a state HIT coordinator and then actually distributing funds in the best way that there's not a bottleneck within one particular agency across these private/public partnerships is already a big win for us. The other thing you can do is as you're walking and talking about how we achieve that meaningful use of electronic health information, tying the how we get there to the outcome in a way that almost forces or requires collaboration will help facilitate that.

So when you look at what is the outcome of health information exchange, well, it's coordinating care or coordinating an administrative service or coordinating something across multiple entities, be it private and public, or patient and provider, or hospital system in HIO, to the extent that you can weave that into successful completion of the criteria then we'll be forced to come up with a strategy or way of leveraging those dollars to get to the end goal.

Micky Tripathi - Massachusetts eHealth Collaborative - President & CEO
Yes just, I'll call it a follow up so I can still keep ... separate question. I mean, we talked a little bit about whether this is top down or bottom up or middle out or whatever it is. I guess I'd just like to ask how far do you think we need to go from the federal level, and the federal government needs to go as we think about—let's say yellow pages. Let's talk about that for a minute. I think there's a growing sense I'm hearing that our routing director probably has a national focus from the beginning, but as we think about yellow pages ... see variation the question is how much direction, guidance, standardization do we think we ought to be recommending from the top down.

For example, is there a basis to say that there ought to be some standardization around yellow page configuration and content related to stage one meaningful use transactions? So we can come to some sort of agreement perhaps on the core that every state would have to conform with and then a set of interoperability standards to assure continuity of care transactions across states and the use for the directories to be able to facilitate that but then allow state level ... on top of that in variation.

What do you think about that? Maybe that's what we're all saying but not saying it quite as directly. Second, how far do you think that that sort of direction needs to be?

Greg DeBor – New England Health Exchange Network- CSC Healthcare, Partner
My inclination would be not to make it so much about state level variation but to make some content recommendations and then just leave it to the market at large to make those decisions. Because vendors will want to have some value added in their products around provider directories and CAQH is out there with a great database. Other people will have that too, so just have some recommendations on what content is required and how it should be used from both the HIE provider to provider or provider to other entity perspective and the patient/ provider relationship, and a patient finding insurance. That's a big decision point for ... that's another huge case for the provider directory. ... my doctor in this plan, very important, and will become more important health reform. Just think about some recommendations about content and leave the format and standards may be up to the market to decide, focus on the standards for exchange.

Carladenise Edwards – Cal eConnect – President and CEO
I agree with Greg full heartedly. Actually, one of the thoughts I had as I was working through the questions that you all raised was is yellow page is actually appropriate. If you truly mean yellow pages,

then yellow pages are very diverse.   I don't remember from Carl and Walter, but someone over there on that side of the room talked about every time you moved how different the yellow pages are. Yellow pages are different and they vary based on how much the person who's entering the data is willing to pay to customize their advertisement. So the point is if you really want yellow pages then you'll get some core minimum standards for the ad, the information going into that book. Then whoever creates the book will have basically carte blanche in how it looks and feels and meets the needs of the constituency that they're marketing that yellow pages to.

If you're talking about an actual directory where people are going for pointed, targeted information that has to be standardized and harmonious, then you're going to be very prescriptive. I think if we go back to, whether it's the routing or the yellow pages, the routing is prescriptive. You don't even need government intervention at some level to have the vendors create routers that work. They work and they have been working. There's more to be done in terms of ensuring that they have the full functionality and capacity that are required to meet HIPAA standards, privacy, security and then go across different platforms.

So do you need standards? Yes. I think the Feds should say these are the standards. These are the minimum requirements. This is how you do it to get data from point A to point B in accordance with the rules that have been established. But if you're talking about the look, the feel, and the business case or use for a directory like a yellow pages, then you're going to have minimum criteria that meets those standards and then the rest would be driven by the market. So George and I are definitely in agreement on that.

One other point I wanted to make is I think one of the things that would be incredibly helpful, even in this discussion is definitions. I would love for there to be more definitions around these terms that come from the federal government. For example, when Jonah asked the question about national, should we have a national directory, Greg answered the question but I don't know if he answered the question that Jonah asked. Jonah was and I heard—do we need the federal government to create a national provider directory? Greg answered the question that we, in terms of his region, are creating a national provider directory by the virtue of the fact that his region will have as many players across the country in his directory. They're two different things. So to the extent that we have some real clear definitions that help us understand the end point, we'll be more likely to get there and agree with what the product is.

Jonah Frohlich – HIT at California HHS Agency – Deputy Secretary
All right, I'm going to see that we make sure we answer all these questions, so I'm going to ask four more. Let's see if we can have very quick questions and very quick answers if I may so we get to the .... Walter, you're next.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Yes, fascinating discussion. So far what I heard is a lot of things, but one of the big things is basically ... have a major database or two, actually. One is called NPPES and the other one is PECOS. Every health plan in the country has a version of PECOS, not called PECOS, but they have a very robust database, which they use ... and do other things.

There is basically every Medicaid agency that has even a more robust one in some cases. There are private sector initiatives that are moving in that direction: CAQH ... AMA have some. There are vendors that do this. There is now HIEs that are looking at establishing that. In California, that's the first order of business to develop this.

So what I'm finding—and this is the question—I'm finding that there is a clear sense that those are going to continue, in my mind, to be in play and used for different purposes. So the opportunity that we have is to create some ways of connecting all those and taking advantage of the robust information that each of them has. So that if I am licensed in three states, the information of my license is actually recorded in different databases at the same time. So there will be sometimes a questionable and inconsistent issues, but—

My question is, is that your sense of where we should be going instead of creating even a national anything? At the end, national means basically a connection of all of the other ones, in one way at least. Should that be the case or should there be certainly some sort of way of pooling all of that into a true national centralized repository?

I think that the clear issue is all these databases that exist out there probably will continue to exist. They are the ones that are closer to the location of where these people are, individuals and organizations. They're the ones that are most interested in maintaining them up to date because they're used to .... So trying to elevate or create some sort of national or even a regional version of those becomes a question of maintenance and reliability. So again ... questions to—from your ...—what the model is? Is really a truly for both applications, federated version of this connecting all this, establishing some standard messaging between them, or are we looking at creating some sort of a centralized ...?

George Oestreich – Missouri Medicaid – Deputy Division Dir., Clinical Services
I think your analysis of the issues and the number of databases is out there. However, I think the analysis of the robustness is grossly overstated. I would tell you at least in Missouri—and I was just recently with 23 other states—the level of accurate information within the provider enrollment/registry files is the weakest link and the ... link in the system. We were in process to work with PECOS and in its next iteration and a grant process so that we would coordinate our activity there. Those issues stopped and HITECH began. So we had not incorporated that in our reengineering and it's sitting out there as an orphan that we have to find a home for.

That's maybe unique, but I think the lack of robustness and the other provider enrollment and what I've seen in some of the managed care enrollment information is not atypical of what I've just described. So I think that the leverage at the federal level to maintain core data elements and then use a federated process to bring those into those individual service units is the mechanism that seems most appropriate to me at this point.

Greg DeBor – New England Health Exchange Network- CSC Healthcare, Partner
I would absolutely echo George's point that data integrity is certainly in our MMIS system is a significant issue and is in all the different state systems. But think about the Internet metaphor and the whole notion of a distributed network. The reason that the Pentagon moved away from this early centralized notion of DARPA was that it was not strong enough. It was too dependent on that single point and they moved to a distributed network, which people resisted because it seemed redundant, but the strength is in the redundancy.

So I think that that's a very useful way to think about this moving forward, in that really I think that the difference between the United red carpet example of the TSA has checked it so we're right is there are going be lots of TSA. There are lots of different gatekeepers. What we need to do is figure out a way to build trust relationships between the different authoritative directories. So the trust relationships between providers but you also have to ultimately be okay for one directory to count on another directory say, yes, that person is or that entity, that participant, which I think—

That's the other thing that I think is really key for moving forward that is again a national standard kind of thing of defining terms. What do we mean by providers? How do we parse that out? That's— A little broken record on that one.

Jonah Frohlich – HIT at California HHS Agency – Deputy Secretary
That's good. We need to hear it seven times, seven ways. Three questions in ten minutes. Pretend we're talking to a newspaper reporter. You want to say as little as you can but still be meaningful. Dave?

David Lansky – Pacific Business Group on Health – President & CEO
Back to the regional or the cooperative development approach: It seems to me, my experience has been that waiting for standards to be promulgated and imposed is like waiting for .... We're on a timeline that doesn't allow us that kind of luxury. So what is it that we can do and what kind of support enablement do we need to go off and do this ourselves?

Hunt Blair – OVHA – Deputy Director
We thought the same thing when we looked at building this for what we had to do to expand our network. We saw no standards and we saw no standards making process, so we made the same judgment. All I can say is we will share all of our specifications with the committee and industry and you can look at what we have as a starting point.

David Lansky – Pacific Business Group on Health – President & CEO
I'm sorry, not to have a dialog, but as the chief financial officer from a state, I know how bereft we are and kind of what the status is of all the people, at least inside the governmental fence, about what they're able to do. I'm trying to figure out what else it is that's needed that doesn't have all of us walk out of here today and say, gee, that's what ... happen, but it doesn't happen. So what's it going to take to actually make that occur?

Hunt Blair – OVHA – Deputy Director
Is that a standards making issue or is that a—?

David Lansky – Pacific Business Group on Health – President & CEO
It's a cooperation issue, because every in this room usually has another hat, right? ... three. Everybody will go back and say yes that was on their to-do list and float it down towards the bottom if they're not careful.

Hunt Blair – OVHA – Deputy Director
Well, I guess to answer the question would be to keep it simple, to try to clearly scope what the core requirements of a routing directory are and leave some of the other recommendations for later to harmonize what's happening, at least at the federal level, as other people have said, George in particular, around all of the different NLR NPPES and public health and other directories that are out there.

Hunt Blair – OVHA – Deputy Director
I think we have to bite off the chunks we can as we are racing along. I had a meeting the day before yesterday with my staff saying, okay, we're going to talk about this national thing, but we're building our own anyway because we have to, if not ... too many reasons why we have to have it. I'm obsessed by it, so I'm so glad that we're talking about it today. But I think it could be at the RECs meetings, we could spend some time talking about the HIE and RECs because the RECs are compiling, right? As was brought up earlier—

W
(Inaudible.)

Hunt Blair – OVHA – Deputy Director
Excuse me, the RECs. I'm sorry about that. We could be compiling sort of what's the minimum number of like types across the states that we could spend some of those mandated, interstate dollars on to jump start and then keep building on as we go, whichever ... California you said the example comes from, early days of the Internet.

David Lansky – Pacific Business Group on Health – President & CEO
Oh, yes. ... working code ....

Hunt Blair – OVHA – Deputy Director
We are in the AOL, CompuServe or even earlier days of the Internet. There is no clear path to how we got here except jumbling forward, that's the fun of it.

Jonah Frohlich – HIT at California HHS Agency – Deputy Secretary
We have two more so now pretend your testifying before Congress. Carl?

Carl Dvorak – Epic Systems – EVP

We've got an hour. So federated is a word we've heard a lot today. Sometimes I worry though that federated is a word we use to describe what we did to the boss when they said agree on standards, but we couldn't, so we did this instead. I'm curious to see how that plays out through time.

One concern I've got and I guess the direct question coming at the end is seems like there's only so many things we could throw on this meaningful use train, this HITECH train. This particular category of discussion has hundreds of different needs, just reading through this packet, that you could do. Not all of them really relate directly to the meaningful use requirements and the HITECH and the objectives for which the money was set aside for the practitioners to try to do at least the first reasonable step of automation.

Where would you define that first basic line of scope to actually support what was intended through HITECH, at a level where they could be successful? I'm just concerned that the more things we throw into the scope the more unlikely it is we'll actually accomplish anything in the time frame that we have, which is a very near-end time frame. What would you think the minimum scope necessary would be to support meaningful use requirements for the physicians and hospitals that are anticipating HITECH funding?

Carladenise Edwards – Cal eConnect – President and CEO
In my written testimony you'll find two tables and what I did in these two tables, I've used this template before to try and figure out how our particular provider registries relate to the meaningful use criteria. I expanded that to see under the 16 core measures in the 12 menu items, which ones are enabled by simply having an EMR, which ones are enabled to have a health information exchange and which ones are enabled by having a provider directory. This is my assessment and it's very rough. I'd love to have more discussion about it, but there are three that are enabled by having a provider directory, health information exchange and EMR. One is the use of e-Prescribing. The other one is the capability to exchange key clinical information and then the last one is to protect electronic health information using certified technology.

You could probably get to those three simply by having an EMR, but then what you'll fail to do is be able to have trust in the information that's being shared or a vehicle by which the information is being submitted in a structured way. I think one of the things that's critically important to remember is that health information exchange is not about just moving information from point A to point B, but doing it in such a way that the information can be used and then analyzed to improve clinical outcomes and improve efficiency. You need the exchange and you need the provider directory to enable trust and to help structure the information so that you minimize the effort on the recipients.

On the menu items I counted six areas in which the provider directory—in addition to HIE and the EMR—enables the meaningful use criteria. So I would ascertain the existence and the utilization of a solid provider directory that enables exchange by enforcing or enabling a trust relationship is going to help those providers get to meaningful use quicker, faster, friendlier, easier. So there is no doubt that it's something that we need to do. I think there are still questions about the how we do that, to your point, federated, centralized, one or multiple. I think there are still some questions and so if we could use some time between the respective HIEs state designated entities to help figure that out that would be a good use of our resources.

Hunt Blair – OVHA – Deputy Director
I would say care transitions and key clinical summary information, e-Prescribing I don't think a provider directory plays a big role. I want to be a little bit more expansive and say where is the low-hanging fruit and what are all of kind of some big chunks I can pick off, I would add to the provider directory the public health agencies, quality aggregation agencies or entities and the payers.

Jonah Frohlich – HIT at California HHS Agency – Deputy Secretary
George, do you have some thoughts?

George Oestreich – Missouri Medicaid – Deputy Division Dir., Clinical Services

I think that the lowest common denominator to me would be the secure messaging, but I think we run the risk, as pointed out by my colleagues of some under scoping and not being able to fulfill the stage two and especially three opportunities.

Jonah Frohlich – HIT at California HHS Agency – Deputy Secretary
This is the speed round, Claudia.

Claudia Williams – ONC – Acting Director, Office State & Community Programs
Jonah had keyed up a challenge at the beginning and I actually wanted to just synthesize what I heard because I think what you asked was what recommendations should come to us, what should we do? So this is what I heard: I heard, A, we're not assuming one big national directory, especially on the yellow pages. B, there is a need for a fair amount of rigidity and standardization around the routing directory. I think lots of conversation today about components of that and how that might work and that could be a key nationally ... thing.

On the yellow pages side, I think there was—maybe on both sides—a desire to have use of levers to encourage the use of accurate authenticated information from directories. That could be meaningful use. That could be licensing requirements. There are some federal and some state things that could come into play. I think a strong desire to focus though particularly on the yellow pages on stage one of meaningful use as the organizing principle.

I think if we start to look at stage two and stage three, what if as ... care summary transitions become electronic and right now they're not, that's huge. As we anticipate by every means that readmissions are going to be a core requirement from a quality angle that starts expanding the scope so that the ... we now have that are barriers actually fall within the sort of circle that you're trying to resolve. So that's what I heard. What I would love is corrections, additions. Does this sound about right?

Last that the yellow pages may be the minimal helpful thing that could be done is defining a core set of data elements and either defining what ... they look like or just mapping, saying everyone has to have NPI, okay, that's clear cut, but maybe on some of the others it could be a variation across yellow pages so at least you know that the element's there and you're able to map sort of a NIEM-like process across them.

Did you want to say something that I didn't hear? Are there other suggestions?

George Oestreich – Missouri Medicaid – Deputy Division Dir., Clinical Services
... answer to you. There was too much yellow pages in your description because I don't think that the industry is thinking of it in those terms. I know that's a construct here, but routing is what's important today.

Claudia Williams – ONC – Acting Director, Office State & Community Programs
I want to just ask .... So, I am Dr. Smith. I want to get sent to Dr. Jones. I want to get them a care summary. I don't know what information exchange to participate in. I think that's the thing where— What are you—? Are you participating in the ... alliance? Are you participating in NHIN? How do I get something to you?

George Oestreich – Missouri Medicaid – Deputy Division Dir., Clinical Services
There are search aspects to yellow pages, but—

Claudia Williams – ONC – Acting Director, Office State & Community Programs
But just simply saying I want to get you something, I don't know what you're participating or how you want to get it. How do I do that?

George Oestreich – Missouri Medicaid – Deputy Division Dir., Clinical Services
Right. It may be that the answer today is white pages with yellow pages to come.

Hunt Blair – OVHA – Deputy Director
Yes. That's what I was going to say is that I really do think that we've gone down the rabbit hole with yellow pages as a metaphor. I think that we need white pages to answer your question, Claudia. Every state might— I mean I'm going to build a yellow pages for Vermont that tells me like lots of different where their roles are. That's different.

Claudia Williams – ONC – Acting Director, Office State & Community Programs
I think I meant the same thing, I just used that term. I mean a minimal set of elements allows me to find Dr. Jones.

Jonah Frohlich – HIT at California HHS Agency – Deputy Secretary
...that's worth remembering though and that is if you're being treated for primary care at Atrius Health and you have oncology issues and you're being treated at Partners for that. You're less likely to know about Dr. Smith and Dr. Jones. There might very well be a list of 15 providers that are taking care of you in one way or another and the more common use case that we observed is a patient, who gets care from a primary care provider or a practice group. You need to communicate all of the information that's going back and forth between the hospital and the primary care function or the specialty care functions. I wanted to make sure we kept that in scope. It's not simply doctor-to-doctor. I think most patients in a complex medical scenario would struggle to even list all of the doctors that might be involved.

I want to thank the panelists. I think what I heard is that the analogies are so incredibly limiting that we're not going to use yellow/white ... pages for future references because there are some concepts there that are helpful, but it really does get us down a rabbit hole. I think we need to use better language in order to define what we mean.

I think the second thing is just in terms of— I heard repeatedly that there is a need for coordination, collaboration. A lot of it comes from leadership, either within the states, across the states, past the federal level. It's amazing how much the pin that was released really kind of shocked a bunch of states into doing something. I hate to tell necessarily ... that we need more of them, but there is—since it was 001 I'm assuming there will be, but it is a mechanism and a tool that can be used. If it's used well and there is a real consensus about it then it's helpful because the directive we can then take to our state— other agency, our partners in the field, our market—and say, "You know what? We need to do this now. Let's figure out how to do it together."

With that I want to respectfully turn it over to Walter to make sure that his panel has enough time to assemble and talk.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Thank you very much. We're going to turn very quickly to our final panel. While they're coming to the table I just wanted to mention we deliberately left the technical requirements panel to the end so they can give us all the solutions for all the problems that we just talked about.

I'm going to introduce them all. We're going to hear from, first of all, Sorin Davis, Managing Director of CAQH. I'm going to just read their titles in the interest of time. You have a copy of their bios, very impressive bios, in your document.

We're going to hear also, I believe, it's Jeff Barnett from Symantec. Then we're also hearing from JP Little, Executive Vice President of Surescripts; Sandra Sarnoff, who is with Axolotl; and then finally, Keith Boone from GE Healthcare.

Why don't start, Sorin?

Sorin Davis – CAQH – Managing Director, Universal Provider Data Source (UPD)
Good afternoon, everyone. Thank you for the opportunity to address the Task Force. I'm Sorin Davis. I work for CAQH. I am the Managing Director of Universal Provider Data Source, the UPD, which is how you will hear it referred to.

Let me begin by emphasizing the key distinction between provider routing directories and the source of provider data—something we've been calling the yellow pages, but I'm not sure what we're going to call it going forward. So, unfortunately, some of my comments will still refer to it that way, so forgive me. We see yellow pages directories such as the UPD as authoritative repositories of accurate data about providers that may act as a resource for many applications, one of which is the development and implementation of routing directories for use by specific organizations under specific circumstances. Given this context, let me move to questions directed by the Task Force to this panel.

In regard to question one: CAQH believes there are two fundamental technical requirements that apply to both categories of provider directories, a uniform addressing schema and standardized protocols based interfaces. In addition, we believe that providers should be engaged in the management of their data in yellow pages directories.

In regard to question two: There are currently efforts to develop standards, but today there is no accepted list of standard provided data elements enabling health information exchange. A standardized set of data elements is essential for all individual providers, as well as other provider entities within yellow pages directories. In our written testimony we proposed a minimum draft set of such elements. We are working with others to seek initial consensus of such a data set.

Question three addresses the need for routing directories to interface with yellow pages. CAQH is clear about the necessity for a common approach. We are committed to achieving consensus on how to address this necessity.

Question four deals with the need to minimize the duplication of effort and enhance value by leveraging existing infrastructure. While a single, consolidated, national yellow pages or routing directory may be the ideal, CAQH does not believe such a directory will be viable in the near-term. Nevertheless, we believe solidifying the distinction between yellow pages and routing directories and establishment of standardized interfaces, along with the establishment of appropriate governance of such directories appear to be appropriate strategies to move towards non-duplicative and effective systems in a timely manner.

Question five addresses directory architecture. CAQH believes it would be wise to consider a hybrid or federated approach that allows leveraging of existing routing and yellow pages directories, such as the UPD, through the adoption of standard interfaces over time.

With regard to question six: CAQH is not aware of any widely accepted data or data exchange standards for either routing or yellow pages directories. Such standards are needed and once again, we're ready and committed to work with others to encourage consensus on such standards.

Questions seven and eight were very specific to the requirements of HISPs in developing routing directories. CAQH understands and is convinced of the need for appropriate policies, consensus on provider IDs, digital certification and standardized ... processes. Appropriate HISP accreditation and EHR certification are examples of mechanisms that would encourage such an approach.

Finally, in regard to question nine: CAQH has extensive experience with the registration of individual providers. I'll conclude my remarks with some specific comments about the Universal Provider Data Source.

The UPD fits the yellow pages directory description that this committee has defined. We've developed this over the past 8 years as an authoritative, national and up-to-date resource used by more than 550 health plans and other healthcare organizations, such as most recently some state Medicaid agencies to credential individual providers. Now uses of other provider data dependent business functions are starting to emerge and we're being approached to discuss how to do that.

The UPD contains extensive data on some 860,000 individual providers representing every state in the nation. This includes more than 60% of licensed and practicing physicians in the United States. Today

the UPD is perhaps the single largest and up-to-date source of authoritative provider reported—and that's an important distinction—information. The providers themselves update and attest to their information in the UPD every 120 days and its widespread use has evolved to a focus on five highly valued principles.

First is access: Providers have 24/7 access to the UPD to manager their personal data at no cost. Second is accountability: Providers must have complete responsibility for entering, managing and updating their data. Compliance with data updates and attestation to the accuracy of the data today is greater than 80%. Third is trust: Providers have full control over and full responsibility for the data entered into the UPD. They also control the release of that data to the participating organizations. Fourth is transparency: Global users of UPD data are fully identifiable to the provider, whose data is being used. Finally, non-profit status: The UPD was designed and is operated to reduce administrative workload and costs for all parties, not to monetize administrative simplification solutions.

We believe that the UPD platform offers a sound, strategic model on which to develop yellow pages, directory data sources not only for individual providers, but potentially for other provider entities—clinical laboratories, hospitals and such—that are not currently encompassed in the UPD. That's an important distinction. We do not support entities today.

I would conclude by stating simply that CAQH is completely committed to working with this Task Force and with other stakeholders. It is the nature of our business model of our organization to be a convenient or a collaborative place where we can bring various takeovers together to develop efficient and cost effective solutions to administrative problems. Thank you.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Jeff?

Jeff Barnett – Symantec – Healthcare Industry Lead, User Authentication Group
Thank you very much and good afternoon, everyone. My name is Jeff Barnett. I'm the Healthcare Industry Lead for Symantec's User Authentication Group, which very recently was the former Verison Group. I'd like to thank the Policy Committee for this opportunity to testify, certainly on a very important and challenging topic as we can see from some of the discussion today around provider directories and really, the importance of trust in those provider directories as part of the sustainable HIE strategy going forward.

Symantec is not a directory of provider per se, as has been discussed here. We specifically focus on solutions around identity and authentication, both at an organization level and at a user level as well, so I may come at this from a slightly different perspective from that perspective there.

A little word about Symantec: Certainly as a global leader in security solutions, storage and systems management as well, essentially we're starting to see a lot of these technologies as states are starting to move forward around HIEs and certainly from some of the provider directories there as well. While there are a number of challenges, I really want to just focus in today as part of this testimony on how to create a sustainable and efficient HIE and around how you can build trust amongst all of the participants and parties involved in the context of provider directories.

While we are a security provider, really trust is the more fundamental issue. I think we've heard that today, so I'll try to expand on that and, at least from our perspective, talk a little bit more about what we think that that means. So really, beyond security itself, building and maintaining that trust is a fundamental concern for both, HIEs as the key enabler of sustainability. Aspects include both, maintaining privacy, security controls that may be in place there. What are the reputations of the users and the organizations that may be participating? What is the reliability of that information on there? What's the level of assurance? To what degree can individuals that may not be inputting the data have a degree of assurance that that information is accurate there? What are some of the common policies there and how do those support things, such as audits and compliance where that is stored?

As part of that, we certainly see that the number of the HIE services that I know that this committee has talked about a number of those services and certainly, some of those need to be talked about, but we see some of those as being some of the fundamental components of that. As we start to talk a little bit more about what role that maybe this committee or the federal government may play, it's in establishing some of those fundamental elements moving forward there and really where we've seen in the past—and I've had the opportunity to work not only in healthcare, but other industries as well and kind of been through some of these same conversations as directories started rolling out—it's how well the ones that have been successful and I've also seen some that are not quite so successful as well is does the particular directory service a very specific business need and does it solve it well? So that's really part of the fundamental issue there.

Then really, the question around what is the appropriate technology really is more of a question around how that business problem gets solved for different constituents. So in the context of healthcare, that may be one thing for certain types of transactions, such as administrative transactions. It may be something different for things like e-Prescribing. Certainly, that complexity ... forward as a number of HIEs are trying to think about what rules and what services that they may play. Certainly, a lot of those discussions are kind of going on there today, so I'll just touch on that a little bit.

I think also from that perspective we're also starting to hear a number of things from the states as well coming out about cross state issues as well. I know that that's also kind of been addressed. We'll certainly be happy to go into that a little bit more as we move forward, but certainly, that adds another layer of complexity to this as well.

I'll leave with two points here. One is—particularly from a security standpoint and certainly from an HIE and something as complex, potentially as multiple services are on there—is to leave you with the notion that from a security perspective it's not really a one-size-fits-all problem. There are a number of issues that are coming in there. So really, what we see is that creating kind of a trust framework to support that is very important to help match some of those specific needs to some of the specific issues there. Really, from a framework perspective, really the inherent portion of that is the ability to have some degree of flexibility as things, such as technologies and policies and things like that change over time, to go there.

Actually, with that I will go ahead and conclude my comments. I look forward to the Q&A session. Thank you.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
JP?

JP Little – Surescripts – Executive Vice President
Good morning. I appreciate the opportunity to be able to present today. I think everybody in the room has heard from Surescripts at least once today, but I'll briefly summarize where we're at. We run the nation's e-Prescribing network. That means we connect to technology vendors, prescribers, health systems, payers and pharmacies. The current numbers are we just crossed the 200,000 prescriber mark and that's up dramatically from even 6 months ago. It's growing pretty rapidly. We're connected to 52,000 pharmacies, the largest mail order pharmacies in the country and over 25 of the nation's largest PDMs. So we were a merger of RxHub and Surescripts a couple of years ago and that seems to be working out pretty well.

I think Claudia hit it on the head, her summary right before we started this panel. I'm going to read a little bit from the testimony briefly here. Our experience is that a number of national directories already exist, including the Surescripts directory. We interoperate with many of the directories and route messages across each other's networks, including companies like VIVA Health and eRx Network or Emdeon. We believe that many of the issues around creating and managing directories have been worked out and that patterns from the private sector could be usable by HIEs and others. Further, we believe that it's critical that local directories be interoperable with national directories, such as existing national directories we interact with today.

It is our hope that the workgroup will focus on standards and approaches that leverage current experience and practice rather than inventing new standards. That's a very key point. We also believe that there are strong roles that the government should take by creation of NPIs and that there are other tasks that should be left to private and non-profit organizations to work out as meaningful use evolves, like the extension of NPI to handle practice location.

Surescripts currently operates under a model where the Surescripts directory data is distributed to all participants connected on the Surescripts network today. Pharmacies receive a listing of all available physicians on the network and physician vendors receive a listing of all pharmacies available on the network. For e-Prescribing the currently directly utilizes the yellow pages available on our network. For our physician vendors ... which pharmacies are able to receive electronic prescriptions and for the mail service and retail pharmacies to look up which physicians are able to receive medication renewal requests.

In the past Surescripts has depended on our physician vendor and pharmacy partners to supply the critical demographic data necessary to maintain our provider directory. I think we've all heard about the quality issues involved in that. It's hard to keep these directories up to date. So what we do is we look to other sources of provider information, such as NPPES, the DEA, NCPDP and the U.S. Postal Service. This is something we continue to investigate to improve the quality of the directory.

Surescripts directory structure has evolved as the needs of the industry have changed. Where simple demographic data was once enough, such as physician name and address, more complex data requirements exist today due to new flexibility requirements of electronic healthcare products. Surescripts is going beyond core e-Prescribing. We've already got some capabilities around clinical messaging and that requires us to reach through all of the way to the end user physician. That changes the needs in the directory. There are a lot more data elements we need to do that effectively. We talked about provider-to-system types of communication as well. That, again, adds requirements in terms of the data and elements that are required.

For clinical messaging yellow pages and routing information can become even more complex as messages can now be routed to and from different organizations and establishments, as well as individuals. Today we use an identifier called an SPI, a Surescripts Provider Identifier, internally in our system and we actually looked to turn to the NPI as a replacement for that. Without having the ability to specify a location for the NPI we can't use that holistically to support directories.

Briefly on NHIN-D: We've looked very carefully at that. With our expanded capabilities of clinical messaging, directories are absolutely key for that. We're looking at all of the user stories there, so we're very supportive of what's going on with NHIN-D.

There are opportunities to enable small physician group access to a national network, such as Surescripts, by registering their health information service provider, or HISP, with the national network. For example, a small provider office with an NHIN Direct HISP may distribute an NHIN Direct provider address with public keys to enable receipt of clinical transactions from a national network, such as Surescripts.

Surescripts has proven that the current model of connecting national, regional and local provider directory information works today and believes that this model can continue to work and is a sustainable industry by the private sector. We recommend specifically: leverage private sector solutions and data—the industry is obviously moving very quickly—support NHIN Direct and continue to use the NPI as the master provider identifier.

I want to thank you for being here today. I also want to note that I am not a subject matter expert on this, but she's on the phone. Are you out there, Teri?

Teri Byrne – Surescripts – Vice President, Product Management
I am here.

JP Little – Surescripts – Executive Vice President
Very good. What I'm going to do, she is going to field our questions. The stuff that I couldn't go through in the testimony I want to make sure that she hits the high points and gives us the quality answers as possible. So thank you very much.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Sandra?

Sandra Sarnoff – Axolotl
I want to thank everybody for the opportunity to present. I'm incredibly humbled by the participation that's in this room. To give you a background: I work for Axolotl. We are a vendor that's been in the HIE space for over 15 years. Most of our experience has been on the clinical side of the particular issue. So, there are a few subjects that I won't have as much input on in terms of ... claims and billing side.

Again, our experience in the HIE space has taught us that we as the vendor should really strive to achieve the most technically advanced protocols that we can, but still provide the services to those that cannot. So within our HIE, we want to make sure that the hospital can participate with these national standards, that they don't have to jump through hoops to build all of these new technologies. They can provide that information to us as an HIE and we can build better standards. We've got the technical expertise. We've got, hopefully, the funds to do that and can allow them to participate at whatever their technical experience allows them to.

When we get to the routing directories are a huge importance and significant for the HIE. One of the points that was brought up earlier was HIE's have a common challenge of providing a mechanism in which providers using different systems can communicate with each other. The routing directory is a key mechanism to achieve that goal. Right now, intra HIE communication already makes this goal achievable. Our challenge now is how do we make it achievable across all of the various HIEs and state entities that need to participate.

The challenges and opportunities of HIE's grow as the technology grows. I think ... years ago that the challenge of the communication with physicians was ensuring that they have paper in their fax machines. Now it's just the Internet age and everything that there's so much more expectation put on HIE vendors and hospitals and participants. This is just an incredible opportunity for all of us.

One of the greatest ways to achieve these desired outcomes is by ensuring that there is a standard set of measures and criteria's and that they're being followed. One of the earlier examples given in terms—we were talking about HL7. HL7 has become more of a suggestion as opposed to a standard these days. Everybody interprets it the way that it makes sense for their own system. When you try and correlate that at a national level that can obviously lead to misinterpretation. I do think that standardization and certification for HIEs are going to pave the way ... to achieve these desired outcomes.

I also think that the routing directory can be part and parcel of what we were calling the yellow pages. Routing directories should really contain that information that's needed to allow physicians or providers to communicate with each other, provide them a mechanism to assure that Dr. Smith is Dr. Smith and how he wants to receive information—whether it's electronic, whether it's via fax, whether snail mail—but information needs to be contained in those directories.

There should be standard protocols around the type of data that's available in the yellow pages, but that needs to query the data from those directories. So the yellow pages, in my perspective, seem to be that place for the data to be aggregated, not necessarily where the data has to be stored. The data that's required from a clinical standpoint for a clinician is going to be vastly different than the data needed from a payer or another entity. So, I do think that having the ability to query for the specific attributes that you want should be done through the yellow pages, that the yellow pages are retrieving those attributes from the directory.

In terms of the architectural model, we also are looked to ... vendor to think of different ways of aggregating data, whether it's a federated model, whether it's a repository model. Our approach that has been successful ... taking an approach of a hybrid model whereby some data might be available through a query, but there still has to be a bit of data that's persisted at some system. That data obviously needs to be updated on a regular basis and that data needs to be secure. The data needs to be updated only from trusted sites; thereby, again, going back to the idea of ....

Some of the core requirements that really need to be taken into account: Again, identification and authorization. We see that the challenge of the provider identification are very similar to identification problems with patients. Hospitals deal with this every single day. Payers deal with this every single day and I see that our challenges are no different.

Again, accuracy of the data: We've got to ensure that that data be administered, whether it's at the HIE level or the state level. I'm not sure it warrants trying to administer that at the federal level because of the vast number of providers, but physicians are accredited through their own hospitals, through their own state. That seems to make the most sense.

The system has to absolutely be flexible. You've got to provide a model that, again, people can get just the information they need when they need it. Thank you.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Keith?

Keith Boone – GE Healthcare – Standards Architect – Standards Architect
Thank you very much. My name is Keith Boone. I'm the standards geek for GE Healthcare. I'm actually very grateful to be testifying in this group because I'm a geek in a room full of actually rather esteemed experts in some of these areas.

GE Healthcare provides a lot of different products in healthcare. We provide electronic medical records, health information exchange services, quality management, clinical decision support, revenue cycle and claims management, as well as diagnostic and monitoring equipment. So we do quite a bit in the healthcare space.

I want to focus my particular testimony here really on one aspect of directories. Now, directories, it's kind of an operational component that is supporting treatment and payment and to some degree a little bit, operations as we start to talk about quality management in organizations. I'm going to focus on the treatment side and mostly on what we've been calling routing directories, but I'm going to dis that term too. We're not really talking about routing here. We're talking about service discovery. We're now in the 21st century. We're no longer routing messages any more. We're discovering services and building service collaborations to do interesting and effective and meaningful things in healthcare.

So, briefly on the thing we called yellow pages: That's really for the most part in the treatment domain dealing with human-to-human communications. I want to find a provider with a certain specialty, a set of capabilities, office hours or location so that I can call them up, so that I can drive to his office, so I can send him a fax or maybe even an e-mail if I happen to be one of those lucky few that actually can get a provider e-mail address.

Service discovery, on the other hand, is really about automation. It's really about bringing the computer in and talking to that other system, to do the system-to-system communication. There is a lot more to this than just figuring out where that message needs to go. I need to be able to authenticate. I need to be able to discover, as we talked about provider roles, about new licensure, what policies we adhere to, essentially what are the set of certificates that they might have as part of their directory ..., as well as what's the end point that I need to send the message to. These are especially important in dynamic communications, things that we need, for example, in the direct project for the Nationwide Health Information Network or for e-Prescribing or for electronic referrals or secure messaging.

These service discovery directories have now really different use cases than what we've been calling yellow pages in the treatment place. So we need to have a different policy framework. It has to address, as we said, we have trust. Is this authentic data? Has it been recently maintained? When you get it, how do you use it? How are you allowed to use it? What can you do with it? Because now we're exposing these computer-to-computer end points to a whole lot of threats that didn't previously exist. Now we have a different set of policies about who can maybe access this directory information because we don't want somebody delivering a denial of services pack or just simply spamming the provider's inbox using direct capabilities, because now we can send them advertising for please use this drug in new ways.

The challenge here now is we're talking about now dynamic communications networks where there's not a pre-existing business relationship. When we send a prescription message out of one of our applications, the provider doesn't necessarily have an existing business relationship with the pharmacy that they're sending the message to. So there needs to be very, very strong policy about how that message gets sent. That's actually enforced, right? Surescripts actually says, "Before you can even get into the directory you have to go through a certification process that you're actually sending the messages correctly." The same is also true when we're doing things like secure messaging.

Those relationships are not pre-existing business relationships. So while I appreciate a lot of what we've been saying about this, the business process, and when you've got an existing process, an existing business relationship, maintaining an internal or external directory entry is a very small piece of that wider process. That piece of data will come under that process very easily. But these dynamic exchanges, these dynamic communications networks, are more of what we need.

To sum up, what I'd like to talk briefly about is there are existing standards. We talked about the Internet. That's 50 years of work. There are things like LDAP, DSML (Directory Service Markup Language) and stuff like that coming out of general IT. This is not healthcare IT and service discovery is not a healthcare IT problem. It's an IT problem. There are standards that do exist that have had a lot of work put into them already, already been invented. There's also people who profiled them. There's the HPD (Healthcare Provider Directory) profile, which is something that this committee might want to look at for its use. Thank you for your time.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
We're going to go very quickly into questions. While people are beginning to flip their cards to questions, I'll ask the first one I guess.

Now that we heard that we shouldn't be calling these yellow pages and we shouldn't be calling these routing tables ... directory, we're in a very interesting position. I think I heard a couple of very important things. We do need standards and my question is really around what. So here are my three areas where I see there is a need for standards. You can playback that and see if that's okay.

First one: We need standards for the content of this provider directory, whether we call it yellow pages or whatever. By content I mean the data element ... not so much the ... or you can argue also with that. We need standards for inter directory exchanges so that these directories can talk to each other and exchange data. We need standards for some policies around how the directories are used, like who accesses them. What kinds of updates are there? Those are the three areas I saw or heard standards needed.

Then one other element I heard also that was interesting was this concept of certification of source. I heard it in a couple of panels as well the certification of an authoritative resource and the concept of perhaps after recommendation, asking just that ... certified EHR vendors and certified a whole bunch of other things in the industry, the concept of certifying these authoritative sources of directory. So, would you agree with those ... for standards and this concept of a certified source?

Sorin Davis – CAQH – Managing Director, Universal Provider Data Source (UPD)

I certainly would agree. I have expertise for opinions strong around some of those components than others. I also am not a very technical person. Certainly on the need—your first point of data content—we do feel strongly about that. I think that you have heard from a number of people testifying. Most of the directories that exist, including our own, were originally built for specific, let's call them, use cases, business needs. As a result, their data content evolved to specifically address those needs.

So, I don't believe that everybody needs the same data everywhere for everything, but at the same time, there's clearly a need for some kind of minimum basic set of data. It's not clear to me what that is. We've certainly recommended some. I think that they're pretty obvious kinds of data elements, name a provider type. Are you an M.D. or D.O.? We're looking at the NPI number for lack of a better standard identifier.

Within the UPD itself we also have a unique assigned number, so yet again, there is another unique identifier out there. I would hesitate to say use that as an identifier. We need to consolidate though around something that we all agree we can hang on an individual provider. Licenses and their license numbers are obvious other pieces of information needed. Provider specialties, and for that there's already existing structures so that we don't make up our specialties. Providers do have a tendency to sort of invent their own as they go along, so we use the ... nomenclature so that we can agree there's already a preset definition for that. Hospital affiliation, name and addresses of practices; those are things that we believe are very common baseline data sets and obviously, contact information, like telephone numbers and e-mail addresses.

As I think I had indicated in our written testimony, we are actually going to—and we'll share with the committee and with everybody. It's the nature of how we do things—we're going to try to survey in conjunction with ... community as to what are some of these data elements that people think are necessary. Hopefully that will at least help us start to define something like that that we can all work with.

For us it's important. We think we have many of them, but my expectation is that we may discover new elements that are required and then we can leverage our tool, because part of what we do is actually outreach to these providers. We have a very effective communication mechanism. They come to us. We can reach out to them and remind them. We can add to the missing data elements if there's something we're not currently capturing because our existing business model didn't need it. So that's really where I wanted to focus on your points.

JP Little – Surescripts – Executive Vice President
In terms of certification, it's more important that you know what's going to be done. We already have the standards. If you say this directory entry when you use it you would communicate using these standards and you will do so with product that's certified under existing regulations then I think that's probably sufficient. We don't need to go through yet another six certification processes to make this all work. It should fold into, if anything, the existing processes that we have on the certification side.

Keith Boone – GE Healthcare – Standards Architect – Standards Architect
One of the things that I would say is that there certainly is an opportunity from a directory standpoint to really help identify and authenticate individuals digitally, so as this information is starting to be exchanged, the opportunity to be able to do that. What that does and I think one of the things that we're certainly starting to see is essentially what that means is that there is a role to help ... end users, whether that's a hospital or an individual physician, help understand and trust that information and how each of those individuals on either end can trust the information coming there. We think that there is an opportunity to take a look at that from a directory perspective.

What that really then starts to bring up is what one person thinks is an appropriate level may not be what another person thinks is an appropriate level. As an example of that, maybe something like a user name and password, maybe a very low level of assurance; whereas, other more advanced technologies or things that I know and some of the materials things, such as digital ... certainly provide a higher degree of flexibility there.

The good news is from that standpoint certainly, within the federal government there already are recommendations around that and I think at least as far as what we're seeing is that the DEA recently in some of their rule making around e-Prescribing of controlled substances actually has—while all users may not understand and maybe appreciate some of that, what it has done though is provided clarity around what needs to occur. Those are some minimum sets of assurances and things like that. At least from a technology and policy perspective, that is actually giving the capability for a number of organizations—technology companies, etc.—a roadmap to actually do something with that as opposed to let's spend three or four years and try to figure out what that is. Thank you.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
On the phone?

Teri Byrne – Surescripts – Vice President, Product Management
Regarding content of data I agree with others that have said we do have to have some standards, but I really believe that the data content that you require is dependent on the service that you're providing for that physician. As Keith just said, now that we're going to be doing controlled substance e-Prescribing, we're going to need additional credentialing data from physicians ... an additional data element. We've also found as we've gotten into routing of clinical messages that we need additional data. So I really think that there is a base set of information that you need about a provider, but also, depending on the service those other data needs will change.

We obviously have standards, because we do certify ... standards for inter directory exchanges, so in order to either send data or receive information out of our directories you do need to certify to a standard protocol. I don't know if that needs to be everybody's protocol, but standards are always nice if you are connecting to multiple different networks.

I just want to reiterate that the concept in— I kind of agree in the yellow pages and the router are really intertwined because the way Surescripts sees things is that we do need to know how to route a message, but we also need to distribute that to our customers, which physicians and pharmacies are available on our network, but also what services are provided for those physicians. Then when we receive a message from them, we also have to know how to route that message to that. What vendor does it go to or does it go to another network to get to that ... physician or do we fax it? All three of those things are really very intertwined, at least on our network.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
We have about 15 or so minutes and we have 6 questions, so we're going to have to move quickly. I'll go down the table. Micky?

Micky Tripathi – Massachusetts eHealth Collaborative – President & CEO
Yes. I have a very specific question for JP. You had mentioned working with the U.S. Postal Service. Could you describe that a little bit? I'm having a hard time figuring out what was there?

JP Little – Surescripts – Executive Vice President
I know we are. I know Teri can answer your question.

Teri Byrne – Surescripts – Vice President, Product Management
This is kind of going back more to the validity of the data that we receive. In the past we've counted on our vendors to register our physicians and sometimes that data doesn't get updated. Sometimes when they register they may mistype an address or it may not be a valid address. In order for our other partners to match and find that physician, that data needs to be fairly accurate and standardized. We found that it's not possible to get everybody to type information the same way or in their application put their street number in the right place and things like that.

So what we're using the U.S. Postal Service for is to not only help look for standard data, but look for valid addresses. Is what the address coming in really a valid address? If it's not, let's try to find a valid

address so that when we're trying to locate that physician in our directory or others are trying to locate that physician, they've got the same address that we do.

Sorin Davis – CAQH – Director
One little thing about that: For ... describing business in matching patients. We get good, clean data every day because it's in the world of pay claims. So we spend every day from every PBM that's connected to us. We don't have the same thing around providers. We're looking for any source of data that's good.

Teri Byrne – Surescripts – Vice President, Product Management
The Postal Service maintains that adjust verification ATI that can be used to ping and correct addresses. I'm guessing that's what you're using.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Paul, I think you have a question.

Paul Egerman – Software Entrepreneur
Actually, I had the same question about the Postal Service, but I will just simply say that I appreciate everybody's comments. They're really excellent and particularly your comments, Keith, where you talked about the difference between human communication and machine communication and pointed out that e-mail really is human communication. Your view of this in terms of a service architecture also makes a huge amount of sense, that the routing environment is very different from the look-up environment. So the business needs look-up environment are dependent upon the business needs of that particular look-up. What might exist in one provider group may not be the same as another. I just thought that was extremely good.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Gene?

Eugene Nelson – Dartmouth Medical School – Prof. of Community & Family Med
I'm struck by the comment by Sorin that you're not aware of any wildly accepted standards, either for the routing or the yellow pages. I guess in thinking about ... that's out there, one of my questions is what do you think would be the most useful standards and how would you go about setting those standards to help with the following problem?

You have Surescripts, which has provider directories for the various services that you're offering. It's not only provider directories; it's really participant directories for people with whom you have a business relationship. You have ... that is working with a variety of health information organizations to set up exchange. They undoubtedly have provider and participant directories in order to facilitate their exchange.

I guess my question is if you really want to have some type of network of networks where Surescripts is talking to the 53—Jonah says 56—but every state has multiples of these things set up. So if you have 200 of these entities and we want you all to talk to each other I guess the question is how do you avoid going one-by-one and figuring out how your participant directories are going to interact with the various HIOs that ... is helping to set up? What type of standards do you most need to avoid going one-by-one across 200 or more HIOs around the country?

Teri Byrne – Surescripts – Vice President, Product Management
You said there are two different types of standards. One is for getting the information and the other is messaging or routing. So, routing basically is done through different types of messages. So I'm going to route an e-prescription. I'm going to route a clinical message and other types of messages. That's really handled network-to-network because we have standard messaging structures out there and as well as standard data within the message, so we've already set up how to route those between each other.

The bigger challenge is how does Surescripts talk to ... who may talk to another vendor? We already have that model today where we're receiving physician information or pharmacy information from RelayHealth. We put that information in our directory. We know how to route that to RelayHealth. They know how to route it to the end users from their side and so they've got standard connections with all of their business entities and we have a standard connection with RelayHealth.

That's where I say it would be nice if there was a standard that we all could use to share that information. That doesn't exist today. We certainly have standards that our partners have to utilize to share information with us. I don't know what Relay does, what standards they use to share information with all of their participants. That's where I think standard network-to-network sharing of information would be good. The messaging piece—component—is I think taken care of with the messaging structures themselves.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Dave or go ahead, Jim.

James Golden – Minnesota Dept. of Health – Director of Health Policy Division
Although I think that that implies that there are very few networks, I'm not sure that they necessarily a correct function because just in Minnesota we have potentially RelayHealth. We have Surescripts. We have .... We have .... We have MMIC. Those are just the ones that I can think of off the top of my head.

So I think it's easy to say, "Well, you have to use ours," but if everyone says you have to use ours, ultimately what you engage in is a one-to-one negotiation about how you're actually going to work it out or someone's going to have to comply with six or seven different ones and that's just within one state. So when you start to think about it, there's lots of these different networks in different states. If you're not using some kind of standard that facilitates that across your different organizations I don't see how you're ever going to get exchange across those networks without having some painful, one-to-one conversations.

Keith Boone – GE Healthcare – Standards Architect – Standards Architect
I think one of the challenges you're looking at here is that you've got actually different kinds of standards that you need to work with. There are actually standards that work very, very well for communicating updates between different kinds of directories automatically that actually give you federated access to directories that are maintained in little ... in big locations, centrally managed, decentralized in terms of their management and that's LDAP. That gives you the technology infrastructure to manage it, but then you need to understand the content that's actually going to go into that standard to say who the organization is, what data actually has to be there.

Now you're talking about content standards as opposed to communication and management of the directory content, being able to query and maintain it, because the standards to do that actually have existed. They've been part of the Internet for probably a decade or more at this point. I'm almost certain everybody in the room has used them to some degree one way or the other without even knowing it. Some of that's there, but I think the thing that you're talking about and most people have been talking about is content.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Dave?

David Lansky – Pacific Business Group on Health – President & CEO
When Ms. Trudel was testifying about the NPPES, she said there's no amount of validation that goes along with that. All of you and many other presenters have talked about the centrality of the NPI as an identifier. How accurate is it?

Teri Byrne – Surescripts – Vice President, Product Management
I can talk about how Surescripts uses the NPI. The NPI can't be our standard identifier because we need to understand all locations that a physician can either send or receive information from and that they

practice at. However, it's a valuable identifier for us in that when we register a physician, we can validate that this physician has an NPI, that their name matches what their NPI is and that this is just another location that they practice at.

David Lansky – Pacific Business Group on Health – President & CEO
But how accurate is it?

Sorin Davis – CAQH – Director
From our perspective, the way we approach is it is we ask providers, the individual providers, to self report their NPI number. Most recently we conducted a data quality study within our own database to start to get at some of those exact questions. I can actually ... happened to be one of the data elements we looked at and then we independently ... it. It was 97% accurate.

David Lansky – Pacific Business Group on Health – President & CEO
The NPI was?

Sorin Davis – CAQH – Director
The NPI was. The NPI type one. I want to be very specific. I'm talking type one.

David Lansky – Pacific Business Group on Health – President & CEO
Yes.

Sorin Davis – CAQH – Director
It was 97%—

David Lansky – Pacific Business Group on Health – President & CEO
The provider specific—

Sorin Davis – CAQH – Director
That is the individual.

David Lansky – Pacific Business Group on Health – President & CEO
That's good actually because I had heard that it wasn't and I was worried about that. You've made the mention about the patterns from the private sector. How much agreement is there really about this, about the content? In other words, if you have inter directory communication now, you have the messaging standards and all of those things like you were talking about, Keith, but when it comes to the content standards, do you have a consensus set of private sector content standards you use now or not? I don't mean down to like digital size, number of characters in the fields or any of that stuff, just the basic definition?

Sorin Davis – CAQH – Director
Again, I think that the use cases for the data has driven the definition, so in our case the basis for the data we collected was driven by the type of data that organizations agreed to that they needed for the purpose of credentialing the provider, as you heard earlier today from Charles Kennedy and from Tom. So we knew already— Every organization used to have application forms. Some states have actually mandated what data has to be collected in order to credential. There are three organizations today that accredit around the credentialing process that are very prescriptive as to what data needs to be collected in order to credential a provider. So if that's what you mean, yes. We certainly, on the CAQH side, we have that and that's what we've built around, but that may not be sufficient to meet the kinds of use case needs that we're talking about here.

David Lansky – Pacific Business Group on Health – President & CEO
... I think it's got to be a core set and then everybody has got their own individual use pieces that they have to do that are specific to whatever your business is, right? If you sat down in a room for half a day could all of you come up with the same set of core data elements, where if you had somebody who went

and accumulated, verified, vetted, used whatever system was appropriate and then gave you a trusted source of at least that you'd at least remove that much uncertainty or variability from your system.

Sorin Davis – CAQH – Director
It might take a week.

David Lansky – Pacific Business Group on Health – President & CEO
Okay. I'm just trying to figure out how to move here.

Keith Boone – GE Healthcare – Standards Architect
I think it's a fair question and I think there's a lot of it that is fairly obviously is there. What will happen is people will sit there and debate over whether this is in the core set or this is not in the core set. If it's in the core set, does it have to look like that? It gets down into really blood and guts. I mean does an address have two lines or three? Yes. It really wouldn't take that long to figure out what's common across everything.

Teri Byrne – Surescripts – Vice President, Product Management
I also agree. I mean it also depends on the services that a physician is registering for. If they are going to do controlled substance prescribing, DEA we have to ID ... different credentials that are absolutely necessary, but if they don't want to ... controlled substance prescriptions some of those things aren't necessary. You wouldn't need to collect that information from the physician when they're registering.

David Lansky – Pacific Business Group on Health – President & CEO
There are things you want to know about them that, regardless of whether they're DEA specific. That's a use case and kind of the profile, I think was the term that someone used, one of the earlier testifiers used that's different. But that all sits and then attaches to the core set of the demographic and kind of credential identifiers, if you will.

Keith Boone – GE Healthcare – Standards Architect
This would be something that you would build up incrementally. You'd start with a core set and then you'd add in all of those other pieces.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
We have to continue. We have—we're a little over, but Tim, I think you had a question and then Claudia and then—

Tim
I'll do the ... reporter version because I think most of— I was interested in the standards issue, so let me reflect and see if I've got it right and ask for any clarification if I haven't. So I think I heard JP said LDAP is a very well understood standard for a federated directory structure, but not really good standards for what we broadly called stuff—white pages, yellow pages, info—that gets done a lot but not really widely accepted standards. JP, you said that you thought there were plenty of standards or patterns that could be adopted. That was where I was a little lost there.

When I heard Teri speak, it sounded like, "Well, we impose our standards on our network. That works because we're in charge." But I thought, Mr. Golden here asked a great question, which is, "Okay, that works for Surescripts. What about the other 50 networks that you have to integrate with?" Let me ask you specifically what standards you were referring to because I want to make sure we at least understand that people are using standards.   We do want to take advantage of them and understand.

JP Little – Surescripts – Executive Vice President
The point is valid. There are a small number of networks that talk to networks today. We do use proprietary methods to do that today. I know that NHIN-D is driving both, the use of DNS and LDAP and we're participating very effectively at a technical level with that, so that's probably our single best opportunity to get this right.

Teri Byrne – Surescripts – Vice President, Product Management
I want to clarify what I said. Where standards exist, Surescripts uses them and plays a very large role in working with the industry to define the right standards. It's just that other than what we've started talking about with NHIN-D now, there really aren't common standards across the industry for some of this. So we felt the need to create them for those participating on our network.

Tim
I agree. At least in my experience, even with LDAP, it's largely an enterprise directory structure. I'm asking, though I'm saying in my experience, I haven't seen a lot of inter enterprise use of LDAP and federated directory updates, asynchronous federated directory updates kind of stuff. So I'm interested if there is more of that than I'm aware of.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Claudia?

Claudia Williams – ONC – Acting Director, Office State & Community Programs
I had a conversation with Doug and Arien yesterday to try to kind of fill in the right side of the table that I presented this morning. To really focus down, let's just take the concepts of discoverability in credentialing and say they're in some space that we used to call yellow pages. They could be combined with this other, but let's just put them aside for a minute. Let's take directed exchange, point-to-point, known end point.

I just want to go over the things that I believe are happening in the direct initiative and see if there are any other gaps that haven't been addressed in that concept. So, addressing schema I believe—and I have not been ... involved so I'm just saying if our goal is really to come up with much greater specificity around how this is going to work: Is this enough? Is this the right thing? Is there something—addressing schema, I believe is part of what they're looking at. Authentication, clearly. Secure routing transport is a sort of core using .... Package content, yes. Certificate management, I think it hadn't been totally specified but it will come under the governance work that's going on. Then LDAP and DNS are sort of the directory approach.

We started out the day repeatedly saying where we need nationwide approach is in this routing directory. Our use case is meaningful use stage one, which really speaks to a directed model. We have a set of approaches that are being teed up as standards. What's missing? Do we need to do more or does this address the full range of things we might need for directories?

Keith Boone – GE Healthcare – Standards Architect
Communication strategy: Are you going to do store and forward? Are you going to do query response? Are you going to have delayed response? Are you sort of asynchronous sort of messaging paradigm, etc.? You've got lots going in there and because the direct project of the National Health Information Network is focused on one piece, we were able to stay store and forward messaging. For store and forward messaging here's what the addressing protocol looks like. If you start to do file dumps, that could be FTP. If you start to do query retrieve, that could be HTP. So you get back to the fundamental what an address look like on the Internet. Well, it's a URL. That's essentially it.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Any other comments? I also heard identity management as part of the elements involved in this, so I would probably suggest adding that to the .... Any other comments to that? Pete.

Pete
I guess as I've been listening to the discussion and following the question or sort of the train of thought along data validity and data integrity, I'm wondering if there shouldn't also be a set of recommendations around perspective requirements for looking at accuracy completeness and currency. If we had time I'd love to hear the vendor's approach to those recommendations for data integrity. Otherwise, I think maybe as a committee we ought to handle that also.

M
... a very good response on the integrity issue earlier, which is that if all providers were required to give their e-mail addresses to get their payment, they would ... all payers would have providers' e-mail addresses. If there is an incentive for that data to be accurate to the organization that is the supplier of the data, then the reliability of that data will go up. If there is no incentive for them to make it accurate because somebody else is going to take on the burden, then you can put all of the validation requirements that you want on it and you're just going to wind up in the same situation that we heard Medicare was in with its data validity requirements.

Sorin Davis – CAQH – Director
Let me add a little bit, because I think there's a little bit more than that. Yes. Absolutely, incentives and creating some driver for providers to manage their data and keep it current is critical. I am not a big believer that you can mandate them to give you information and keep it current. You may be able to mandate they give you information once, but keeping it current over time is going to be a real challenge.

You have to create some really compelling business reasons for that provider to willingly want to manage and maintain their data. Then you have to give them tools that are simple to use—and this is going to be very important—because the more difficult you make it for the provider to engage with you, to give you the information you want them to give you, the less likely they will be to do it. So we know, because we do this, we ask people to come back to our system three times a year to re-attest even if nothing has changed so that I've got some anchor point. I can tell you that while the data quality is good, there are still errors. You can use the tool to help them give you the answers.

What we find and we're very encouraged by it is providers for the most part are willing to give you the information. They're not looking to ... the systems. They're not looking to cheat you or anything like that. They will, however, make mistakes. If you make it too complicated, they won't follow through. They just want to know that they're doing it for a reason that makes sense downstream for their business purpose.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Jim, you have the last one minute.

James Golden – Minnesota Dept. of Health – Director of Health Policy Division
I just wanted to follow up on the accuracy question that you were talking about. You said that it's 97% accurate. I assume that's where you have a name and you compare what the NPI they reported to you was actually what's in the NPI and 3% of the time they've reported it incorrectly. Is that an accurate understanding of what you said?

Sorin Davis – CAQH – Director
That's correct.

James Golden – Minnesota Dept. of Health – Director of Health Policy Division
Did you happen to take a look at the relationship between what they reported in the UPD around specialty and license number and what they also reported to the NPI during their registration or updating process and the relationship there?

Sorin Davis – CAQH – Director
The way you just described it is really us validating how accurate the entry and NPI is for not NPI data. We didn't do that. For license you can validate license by going to a licensing board. There are what are often referred to as primary sources or trusted sources of certain pieces of data that's part of the established credentialing process that you can check against and, in fact, have to check against. Not everything can be accepted as self reported by the provider during credentialing, so we check independently.

For instance, on the licensing—and it's ironic because the licensing has some really inherent problems. We broke our accuracy down to functional versus absolute accuracy because some data pieces can actually be functionally accurate, but from an absolute perspective where you have to match digit for digit,

character for character you could be off. Ironically, in licensing, we found that to have the greatest discrepancy because the primary source is the licensing board.

The provider 100% of the time reported their license correctly, which is license number 123456, but when we validated that against the licensing board, we may have found that the licensing board for its own internal reasons may have added a character in front of that number or behind it, like an MD12345. From an absolute perspective that's wrong. From a functional perspective it's right. The irony is the actual paper license that the provider works with does not have that alpha character in front of it. It is 12345. They have no way of knowing how that licensing board is reporting or capturing the data electronically. So when you get into data quality you're getting into some of these kinds of issues as well.

I'll happily share with everybody we have the study we've done published on our Website. You can just ask for it and we'll send it to you. It addresses some of these points. I'm not sure we have the info you were looking for.

I will tell you this, the weakest data self reported, if that's going to help you, is the actual name of a practice. Shockingly, that was where we only had 68% accuracy. Part of it is how the system itself asks the question. I think we can use the technology to get people to correctly answer the question, even give them a pop-up that says, if you put your name in the practice name, "Is that really your practice name?" Right now they can do it. Lo and behold, it was wrong. Why? Because they thought that's how it was going to get published in the directory by the down-end user of the data, so they don't want the name of the practice published. They want their name published.

So data quality is a big issue and we're very concerned with it. Overall, we're at 94% accuracy in UPD and we think that within the next year, based on what we have found out and some changes to the system to help guide them, we can probably drive it to 98%.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Thank you very much. I think this concludes our panel. Thank you to all of the panelists for your testimony, your time. I think we are going to take a couple of minutes, each of us, perhaps to summarize some of the thoughts and then go back to Micky for some concluding comments.

I just want to, from my perspective, thank everyone today for their participation and certainly, Claudia and Kory and Judy for all of their support and their assistance in putting together this one-day hearing.

I think what we wanted to do was, Jonah was going to briefly make a few comments and I think primarily the first two panels and then I'll get to a couple of brief comments on the last two panels and then we'll turn it to Mickey.

Jonah Frohlich – HIT at California HHS Agency – Deputy Secretary
Then we'll have public comment on the phone. Just a couple of things that stood out for me was one is there seemed to be pretty uniform agreement that most of these directories, in order to be maintainable, should be to some extent local in scope but architected so that there could be sort of a federated model to have a nationwide directory. A second is that accuracy is paramount in order to ensure trust .... The third is that there's a need to make sure that messages get to individual clinicians and to entities, organizations. You can't have one or the other. There's a need to do both.

From the second panel I heard things like plans could be involved. If you solve their directory problems, like credentialing and wrap it up in quality and present ... then the health plans would basically be able to fund all HIE in the country, which I thought was terrific. It's a great offer. I think we should take them up on it.

Second, I heard that we should be considering an extensive, though not universal definition necessarily, of providers ... start. We were talking about things like public health lab and pharmacy, etc., not just the clinician or the hospital. Third is that we really need to focus and start with the business process. That

the data that is driven from that is really going to be what we get at, but we should really be focusing on business processes that we're trying to solve.

The fourth that we heard is that there are many national directories that exist, two or three, three now in CMS alone that I think we've heard of. They're starting to try to consider how they're going to federate them, but there's clearly plenty of national like directories other than CDC, CMS. We should be thinking about how we can try to leverage those resources. What I did not hear as much as I thought it was is the utility around public health, although we heard a little bit and around quality, which we heard almost none of, which I thought, in light of health reform I was expecting to hear more about what these directories can do to support the use of quality reporting since it is throughout what's supposed to be our ... healthcare delivery systems.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
To add to that, from the last couple of panels I think one of the messages I heard was we should keep it simple and progressively grow from there. So start with a focus on basic routing as one of the primary areas. We also heard some of the challenge of delineating and separating very clearly this concept that we were using as yellow pages and this other concept that we're using of routing directories. I think at the end we came back with there are probably more appropriate terms to call whatever we're going to call this.

From the state ..., I heard a very interesting comment. That is that there might be an opportunity to use and have the HIE coordinators and the HIE meetings that are happening nationally to look at this issue and perhaps provide some more input and feedback on what are the expectations that the HIEs have with respect to this.

From the last panel I think we heard a lot of interesting concepts about where are the areas where we need most work: The standards areas of data content based on use case and purpose of use and the standard of inter directory exchanges and standard policies and a number of other priority areas to consider. At the end, really, that is part of what we will need to be doing is coming back in the recommendation discussion, look at what are sort of the priority areas that we would recommend focusing on.

In the routing side, I think Claudia did a very nice summary of some of the key elements: addressing schema, authentication, secure routing, package content transmission, certificate management. A couple of things were added: communication strategy and data validity and data integrity and identity management.

I think we have a good sense of a lot of very important topics to consider. I think at the end I would probably just mention we need to consider focusing ... three very large concepts. Terminology: I think it was mentioned that we need to clarify and help guide this terminology issue of what are we talking about. Functionality: What are the functional aspects of what we're looking at and what's the purpose of them? Standards. I think those three probably will help us guide our recommendations.

Micky, some final words?

Micky Tripathi - Massachusetts eHealth Collaborative - President & CEO
I am certainly not going to try to do better than or build on the great syntheses both from Jonah and from Walter. I do want to thank Jonah and Walter for taking the lead on working with the Task Force and leading us through this, both now and as we ... working weeks ahead to get some recommendations on the table.

I also want to thank the members of the Workgroup, for those who are here in person and those who are on the phone, for your diligence throughout the day and really listening to what I think was a very, very rich conversation. Finally, I want to thank all of the panelists for coming here on a very wet and rainy day and for preparing ... because I know that's very difficult to do, particularly on the time frame that we had. I thought it was just unbelievably excellent and really provided us with a lot of rich content.

There is, as I think Walter had mentioned at the beginning, the opportunity to continue to submit comments through October 4th. You can do that through the FACA blog on ... site or certainly just send it to any one of us and we'll get it to the right place. We certainly encourage anyone who has already submitted something, if you want to add more that's great. Anyone from the public who also submits some, we would welcome any of your comments.

Let me turn it over to Judy for the public comment.

Judy Sparrow – Office of the National Coordinator – Executive Director
If there's anyone in the room who wishes to make a comment, please queue up at the microphone in the room. Somebody is on the telephone. If you would please identify yourself, your name, your organization. There is a three-minute time limit.

Moderator
Our first comment comes from Shelly Sparrow.

Shelly Spiro – Pharmacy eHealth IT Collaborative – Director
Good afternoon. My name is Shelly Spiro and I am the Director of the Pharmacy eHealth Information Technology Collaborative. It's a newly formed collaborative of nine of the national pharmacy associations. Our members practice in all settings, including hospitals, community, extended care, which includes skilled nursing facilities, hospice, home care, assisted living, universities and health centers and ambulatory care clinics. The collaborative is focused on ensuring that the technical standards are aligned with the nation's growing need for an all-inclusive, clinical services provided by pharmacists in all of these practice settings. Services provided by pharmacists, especially administering and providing immunizations and medication therapy management—otherwise known as MTM—are integral to all providers using the electronic health record in a meaningful way.

Pharmacists play a key role in the prevention of adverse drug events and medication reconciliation to assure medications are safely used in all practice settings. The pharmacist EHR has been developed through the standards development organizations, NCPDP and HL7 and in the near future will be going through the certification process. Pharmacists have the ability to move past the record keeping aspect of prescription processing to provide a fully integrated, clinical electronic health record. The pharmacist EHR will integrate with other providers' electronic health records and even the patient's personal health record to make sure that practice improvements provided by pharmacists related to ... medication use are achieved.

The collaborative has pharmacist members involved in the state HIE (Health Information Exchange) networks and also the regional exchange center initiative. The pharmacy EHIT collaborative is ready and willing to assist the Information Exchange Workgroup with information related to the pharmacist's role as a clinical provider into the bi-directional exchange of clinical information outside the electronic prescription process.

Thank you very much for allowing me to make that comment.

Judy Sparrow – Office of the National Coordinator – Executive Director
We do not have any other comments. I'll turn it back to Micky.

Micky Tripathi - Massachusetts eHealth Collaborative - President & CEO
The public was on the edge of its seat wondering where we were going to head with the provider directory, so we really appreciate having one comment.

Once again, thank you, everyone. As I said, we will be meeting as a workgroup to consider the findings from all of the comments we got, both in the written and oral testimony and we'll be looking forward to reporting on sort of the staged set of recommendations that will be coming out in sort of a structured way

in alignment with what we've heard and also in alignment with some of the other workgroups with whom we have inter-dependencies over the next few months. Thank you very much.

Public Comment Received During the Meeting

1. Rather than yellow pages, I believe that we should call the directory a Master Provider Index.

2. Can you please ask the various participants to identify themselves when they are offering comments for the benefit of the people on the phone?

3. I think that fraudulent providers will frequently change addresses often crossing state lines. Therefore, I think that a national yellow pages/master provider index can be valuable as to tracking the movements of potentially fraudulent providers.

4. Follow up to Micky's question to Linda. The 700,000 spent for directory encompasses how many individual providers and how many facilities/entities

5. Are there other use cases where it is necessary to link routing directory info in an EHR with "Yellow Pages" directory information? Would not one use case be in reviewing medication history? Would it not be helpful to see within the EHR the practice information including specialty to understand why a particular medicine may have been prescribed and in some case to directly contact the prescribing provider. Without the "Yellow Pages" directory would the Medication Reconciliation be as efficient?

6. I do not believe any of the discussion today has addressed patient consent as a directory component. If patient consent laws in a state allow patients to direct that consent be excluded for a specific individual provider, how would this be administered if the HIE directory only maintains organizational endpoint information. What would happen if the patient could exclude their data from a particular group practice that is part of a larger organization?   Similarly how would a request by a patient to know WHO has accessed and or received their records be produced in a single consolidated response if the HIE only maintains organizational endpoints?

7. Steve Witter: Claudia summarized by indicating that a "routing" directory is what needs to be developed at a federal/national level. I am not sure that is what some people have said. Tom Morrison said this morning and Walter re-iterated this is a slightly different way. They said that the important item at a national level is a means for directly identifying an individual provider and developing an index structure such that across different federated routing and yellow pages directories the same unique individual can be located across the different directories. Could someone comment on whether we are talking about a federal/national "routing" directory or a federal/national identification system or indexing structure?